The Journal of the
American Medical Association

VOL. XXV. CHICAGO, AUGUST 24, 1895. No. 8.

ORIGINAL ARTICLES.

VAGINAL HYSTERECTOMY FOR PELVIC SUPPURATION.

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

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In an old edition of Thomas' work on gynecology, the following sentence occurs: "A guarded prognosis should always be made as to the time of recovery in pelvic cellulitis, for no amount of experience can foresee the course of the affection; whether the effused *liquor sanguinis* will disappear by absorption in three weeks; whether the discharge of one abscess will end the patient's suffering; or whether a chronic induration will exist a great length of time."

The pathology of pelvic suppuration has undergone some modifications since this was written, but the prognosis, unfortunately, remains practically the same. Many women have the so-called "chronic induration" which makes them confirmed invalids, and in many instances bedridden. Various operations have been devised for their relief, and various treatments. Perhaps no branch of gynecology has received more careful attention than the one we are now considering. It has been made the subject of dispute and is now far from settled. What one surgeon approves of and practices, another derides and condemns, and yet the results of each may be the same. Under these circumstances it is apparent that any new method of dealing with this class of cases must of necessity be open to severe criticism before it is generally adopted. If to this is added the fact that such a method is attended with great technical difficulties the criticism becomes the more severe, and frequently it is condemned before it is even tried. Such has been the case with vaginal hysterectomy for pelvic suppuration. Inaugurated in France by Péan in 1886, it was received with opposition by the French surgeons, and it was only after repeated proofs of the efficacy of the method that it finally gained a foothold in Paris. At the present time it is the method of choice in cases of long-standing severe inflammatory disease of the appendages. The keynote of the operation is one word—drainage—good, free, unobstructed, surgical drainage. The abdominal route has been studied to the point of exhaustion. It was entirely overlooked that the vaginal route was the logical one, and why? Simply because it had never occurred to anybody to remove the uterus which was in the way so that there should be a large, unobstructed highway down which the pus could flow. So much care has been bestowed upon the appendages that the uterus escaped its share of attention. Not only is the uterus a mechanical obstruction in pelvic suppuration, but it also may be a constant source of future danger to the woman by reason of germs which it may contain, and which may excite active inflammation at a subsequent period. Many a woman has been celiotomized over and over again for inflammatory trouble of the appendages without relief. Dr. Pryor, of New York, told me of a case in which celiotomy had been done seventeen times by various surgeons.

Jacobs' summing up of the operation and its indications is as follows: "Let us now review the indications for vaginal hysterectomy, beginning with the most difficult cases of suppuration complicated with adhesions. There is pus in the dilated tubes, in the ovaries, in the adjacent cellular tissue. The uterus is fixed, and the coils of intestines are glued together above these lesions like a solid roof. In such a case celiotomy displays the adhesions, which can not be separated without opening the bowels, with a chance that we may reach the purulent focus limited by them, open, empty and drain it; and the result may be that the woman will slowly recover, or that she will have an intractable fistula. Often we are confronted by a similar condition in which the pelvis is occupied by adhesions, in the middle of which the uterus is imprisoned, and yet without the presence of purulent foci. In such cases, owing to fear of accident, the surgeon is induced to relinquish the operation as an exploratory incision. It is, of course, always possible to finish the operation, but we have to consider the life of our patient. In just these cases vaginal hysterectomy gives results little short of marvelous—not wholly without danger, but with a security far greater than the abdominal. The collections of pus are opened into the vagina without infecting the peritoneal cavity; the adhesions are severed if possible, but should the finger encounter too great resistance they are abandoned and in a few days they will soften and become absorbed. In pelvic suppuration, and with extensive complicated adhesions, both equally formidable for the celiotomist, vaginal hysterectomy is triumphant."

Recently it has been the practice of many surgeons to remove the uterus as well as the appendages at their celiotomies, for suppurative disease, and the reason was because they found that their patients did not all get well when they removed only the appendages. Pathologic changes of the uterus certainly demand as much attention as those of the appendages. Possibly the reason they have been overlooked heretofore is the difficulty of recognizing their presence. A uterus affected with metritis, and not giving rise to any enlargement, is difficult of diagnosis. In comparatively simple cases the uterus and the appendages can be removed by the abdominal route very much more easily, and perhaps very much more quickly, than by the vaginal route; but to compensate for these advantages the degree of shock attending the vaginal operation is insignificant; added to

this is the fact there is no possibility of subsequent ventral hernia which makes the life of the patient so uncomfortable. In the operation of vaginal hysterectomy, the bowels are neither seen nor touched until the end. Special emphasis must be made in regard to the lesser degree of shock; it is one of the strongest arguments in favor of the operation.

In those cases in which pelvic suppuration is complicated with rectal, vesical or intestinal fistulæ, vaginal hysterectomy is the operation of choice. A celiotomy under such circumstances is always dangerous; but by the vaginal method the peritoneum is not soiled; the discharges flow down a natural incline, and the fistula closes by itself. The conditions are favorable for such a result, the healing being aided by cicatricial contraction of the pelvic contents *en masse*. It is rare that a secondary operation is needed. How great this cicatricial contraction is, may be inferred by the fact that in one of Ségond's cases, in which all the feces were passed *per vaginam*, complete closure of the fistula occurred spontaneously after a vaginal hysterectomy. But perhaps the most wonderful result of vaginal hysterectomy is the immediate disappearance of the inflammatory masses. There is no doubt whatever about this. The explanation is probably to be found in the excellent drainage and in the removal of the cause. There is no reason why cicatrization should be any different from that in any other part of the body. An almost analogous condition is to be found in appendicitis. Before operative methods were in vogue in treating this disease, its frequent recurrence was its most distressing feature; the appendix removed, the patient got well. Whether or not leaving behind the appendages, or parts of them influences the final result is perhaps at present unsettled; in most instances, however, it is feasible to remove them with the uterus.

And now a word in regard to the objections to the operation. It has been contended that it is unsurgical, that it is brutal, that it is blind, and that it is unsafe. Furthermore, it has been contended that hemorrhage is likely to occur during the operation; that the ureter and the viscera may be wounded. In regard to the first of these objections, it is not necessary to say much. They have been raised by men who know but little about it, and who have never seen it done properly. To see a skillful surgeon perform the operation is a pleasure. The steps are carefully followed; there is no embarrassment; there is no hemorrhage; and the operator sees exactly what he is doing at each step. The fundamental principle of the operation is never to work at haphazard. It is not a blind operation. If the operator has a hemorrhage it is his fault; if he makes a misstep he is lost, and he must be a skillful man if he would recover himself. The laws which govern the procedures must be as rigidly followed as an algebraic formula, otherwise there is no security against mishap. Heretofore, the operation of vaginal hysterectomy has been to get the uterus out in the best and quickest way possible, each individual operator having perhaps his own method, there being no special rules laid down, beyond the incision of the vaginal attachments and the securing of the broad ligaments. No one before Péan attempted to remove the uterus piecemeal, although the simplicity of the thing is evident on reflection.

In regard to wounding the bladder or rectum, it may be said that this occurs not more often than in celiotomy with a skillful operator, probably not as often. Ségond has done the operation 400 times and he never lost a patient from hemorrhage. He opened the bladder three times; the wound was sutured at once and recovery followed. Nine times the rectum was opened; three times it was accidental, six times there was a preëxisting fistula; of these, two died several months after the operation from pulmonary tuberculosis; a third still had a small fistula, but it was a recent case; the other six recovered spontaneously without interference, notably the case already cited of the woman who passed all her feces *per vaginam* before the operation. Ségond in all his 400 cases never clamped the ureter once. He uses a special incision in incising the vagina, which gives more room and at the same time allows the ureter to slip away from the bite of the forceps. The viscera can not be injured if the retractors of the Péan model are used. They are long, flat blades which raise the bladder and rectum away from the cutting instruments, and if properly used are an absolute safeguard against accident.

Statistics are unsatisfactory and to many they are no proof; yet in what other way shall we judge the merits of a new method? Jacobs' are among the best. He has done the operation of vaginal hysterectomy for double inflammatory diseases of the appendages 166 times; he had 162 recoveries and 4 deaths—a mortality of 2.4 per cent. On analysis we find that in 113 there were double purulent collections; of these 111 recovered and 2 died—a mortality of 1.8 per cent. The bladder was perforated twice, the intestines once; the opening was closed and no fistula resulted. In ninety-eight of these recoveries the patient was followed for a period varying from one to four years; eighty-eight were absolute cures; of the others a few suffered somewhat from vesical disturbances due to adhesions, and a few from pelvic pain; a few were not relieved at all.

Péan's results are even better. His first 150 cases all recovered with but one exception; she was moribund at the time of the operation. But perhaps the most instructive cases are those of Landau's. He always does celiotomy when there appears to be a chance of succeeding, reserving the more difficult operation of vaginal hysterectomy for those cases of suppurative disease which, if attacked by the abdominal route, would prove perilous to the patient. "These are cases complicated with rupture of the tube into the bladder, rectum, or intestine; reference also is made to multiple abscesses which are intra- or extraperitoneal." He has done thirty cases of this sort without a single death. It is questionable if statistics of celiotomy can compare favorably with these.

In a short paper of this kind anything but a brief description of the operation is impossible. In the first place, a word about clamps. In a case of adherent uterus they must be used; ligatures will not do on account of the impossibility of securing them properly beyond a certain depth in the vagina. But in cases in which the uterus is low down, for instance, a retroversion with disease of both ovaries requiring removal, ligature holds the preference because of the greater comfort to the patient. Dr. E. W. Cushing, of Boston, has devised a method of ligating the broad ligament which I would like to refer to here because of its neatness, and beause it avoids entirely a sloughing stump in the vagina. After amputating the uterus,

which in a simple case can be done in a few minutes, he draws down the broad ligament of one side into the vault of the vagina. Then he passes his needle through the upper edge of the vaginal incision near the outer angle, and then encircles the uterine artery, which has been temporarily held by a clamp; he then finishes the stitch by emerging at the lower edge of the vaginal incision. The uterine artery is thus firmly ligated, and at the same time the ligature closes over the stump of the broad ligament by approximating the lower and upper edges of the vaginal incisions. The rest of the broad ligament is secured in the same way, on each side, by additional ligatures, two or three more being required. The ovarian artery is ligated separately. By this means the vault of the vagina is closed with the exception of a small hole through which a piece of iodoform gauze is thrust for drainage. Necessarily this method is applicable only to those cases in which there is no pus. In cases in which the uterus is adherent and high up, and in which there may be pus on one or both sides, the following method of operating is the one to be adopted:

Briefly it may be described as having three stages; 1, removal of the inferior segment of the uterus; 2, removal by morcellation of the anterior wall of the uterus; and 3, eversion anteriorly of the stump.

The patient lying on the back, four retractors are put in position, one on each side, and one anteriorly and posteriorly. The cervix is now seized with a bullet forceps and a circular incision is made around the cervix; an additional incision is made on each side parallel to the lower border of the broad ligament, two-thirds of an inch long; it gives more room and protects the ureter. Directly the incision is made, the top of the anterior retractor is forced into the wound and pulled upward and backward along the cervix. The sectioned tissue yields a good deal—surprisingly so in fact—and it is just this maneuver that makes the Péan instrument of so great value. While the retractor is pulling back the tissue, blunt-pointed, curved scissors separate by short snips the attachments between the bladder and uterus; with each snip of the scissors the retractor takes a fresh hold, being introduced into the part just cut by the scissors. The finger will sometimes help a great deal in the dissection. Having separated as much as possible in front, the same should be done behind. The forefinger of the left hand is now placed on the anterior surface of the cervix and glides along outward toward the base of the broad ligament; it penetrates between the anterior peritoneal fold and the ligament proper and pushes aside the ureter. The same is done behind. Then two fingers grasp the broad ligament and serve as guides to the first forceps, which seizes the ligament at least an inch from its lower border. The ligament is then cut the whole length of the forceps close to the uterus; the same is done on the other side. The cervix is now split transversely from side to side up to the point of the forceps; two flaps are thus made, an anterior and a posterior. The posterior flap is now amputated and strong forceps seize the anterior flap and pull it downward; the uterus begins to roll anteriorly, thanks to the void which has been created behind by the amputation of the posterior flap. At the same time fresh separation is effected between the uterus and the bladder. The anterior flap is then amputated. If the uterus is not very adherent it may be possible to make two more flaps which are amputated in the same way after preliminary hemostasis of the broad ligament. But if the uterus is very adherent, the rest of the operation deals with the anterior wall of the organ. Placing a bullet forceps on each side of the canal, the stump is pulled down as much as possible and separation effected between bladder and uterus. After separating as much as feasible, the anterior uterine wall is morcellated in the median line in small pieces. The part removed should include all the tissue down to the uterine cavity. Two more bullet forceps are now inserted on the upper parts of the edges of the excavation; renewed traction is made, more denudation effected and morcellation carried higher up. By repeating the process the peritoneal cavity is reached. The uterus may now be hooked with the finger and everted anteriorly with ease. It is a simple matter to clamp the rest of the broad ligament and to remove the organ. In many instances the appendages are dragged into the vagina and are clamped separately.

If, during the operation, a pus sac has been opened, the operator waits until the flow ceases, then washes out the cavity and proceeds exactly as before. But if it has not been opened, it must be searched for with the finger, for, if undiscovered, it will cause further trouble.

When it is possible to remove the appendages it is proper to do so; otherwise they may remain behind and in the majority of cases will cause no trouble.

The dressing consists of iodoform gauze placed above the tips of the forceps and between them and the vaginal walls. The forceps are removed in forty-eight hours; the gauze not until the sixth day. Pain is controlled with morphin, and in three weeks the patient is up.

The following case which came under my notice is typically illustrative of the sort of patient that is cured by vaginal hysterectomy:

M. J., 29, 2-para, was admitted to the Broca Hospital Aug. 12, 1894. Ever since her last confinement, three years before, she had been suffering from inflammatory pelvic trouble which had confined her to bed most of the time. The longest period of quiescence was three months; the rest of the time she had been practically bedridden from pain and prostration. She had had four attacks of pelvic peritonitis which were severe, the last one eight days before entering the hospital. Examination showed a uterus which was fixed, immovable, and surrounded by inflammatory adhesions; on the right, a mass the size of a good-sized fist filling the pelvis and impinging on the rectum; on the left, a smaller mass. Vaginal hysterectomy was done by Pozzi's first assistant, Dr. F. Jayle. No pus was found. There was no shock to speak of, although the operation lasted over an hour. In three weeks the patient was completely well, suffering no pain and walking about.

I had examined the woman before the operation and easily made out the large masses; when I examined her again, three weeks after the operation, I was astounded to find that on the left side almost nothing remained, and that on the right side there was only a mass the size of a small hen's egg. She told me that she was perfectly well and she looked so, and yet both ovaries and tubes remained behind.

I can not refrain, in conclusion, from referring briefly to the further scope of the vaginal route in dealing with pelvic diseases. In the pre-antiseptic

days it was the only route, and the impunity with which ovaries could be removed through an incision in Douglas' pouch served to put Battey's operation on a sound basis. Not only were ovaries of normal size removed in this way, but also tumors of considerable size. Dr. W. H. Baker, of Boston, assures me that before the celiotomy period he had several times removed a dermoid or other cyst of the ovary through an incision behind the uterus. Perhaps the most prominent advocate of the vaginal route in this country is Dr. Polk, of New York. It was a pleasure, a few weeks ago, to see him operate on a woman who had a cyst of the right ovary the size of a hen's egg. Her left ovary had been removed some time previously by celiotomy and she was much averse to having her abdomen opened again. Most women would be. An incision was made in the posterior vaginal wall close to the uterus, and the peritoneal cavity was soon reached. By means of two large retractors, made after the Ségond model, the operative field was clearly exposed and the cyst brought into view. A few adhesions were readily freed with the finger and the cyst aspirated. The sac was then grasped with a fenestrated forceps and removed. It proved to be a cyst of only a portion of the ovary. Enough of the ovary was left behind to assure the continuance of the catamenial flow. A bit of gauze was thrust into the wound and the patient put to bed. The operation took perhaps fifteen minutes to perform.

Dr. Polk told me that he treats extra-uterine pregnancy in the same way. He never fears hemorrhage, for it is a simple matter to clamp the ovarian artery which supplies the sac. His method is to introduce his forceps along the finger as a guide; to pierce the middle of the broad ligament with one jaw of the forceps, while at the same time the forefinger seeks the top of the broad ligment and protects the intestines, preventing them from being caught in the forceps. The clots may now be turned out at leisure and the cavity washed out. There is no shock to speak of.

In the same way, Jacobs, of Brussels, has removed a very large ovarian cyst, tapping it through the vagina and tying the pedicle, very much as in a celiotomy. Fibroid tumors of the uterus can safely be removed through the vagina. Here the laws of morcellation as set down by Péan must be closely followed, otherwise the operator will be disappointed in his results. A skillful operator has a mortality of almost nothing. It has been shown that fibroids reaching even to the umbilicus may be safely removed by this method. The mortality in 400 cases of fibroids of all sizes was 1.7 per cent.

From these facts it seems as though, in the near future, there must be fewer celiotomies and more vaginal work. The technical difficulties encountered in performing operations through the vagina will perhaps delay the adoption of the method for a time at least, but as the experience of those who are firmly convinced that it is the route of choice in selected cases accumulates, the vaginal route will become more and more popular, and will finally be assigned the place which rightfully belongs to it.

22 Highland Street.

POTABLE SEA WATER.—The salts may be removed from sea water by drawing it, by means of a vacuum pump, through a block of wood in the direction of its fibers.—*Western Druggist.*

THE TREATMENT OF THE STUMP IN OOPHORO-SALPINGOTOMY—A NEW METHOD.

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, May 7-10, 1895.

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There are three serious objections to the method almost universally employed of treating the pedicle and stump in the operation for the removal of the Fallopian tubes and ovaries. They are:

1. In consequence of many adhesions of the tubes and ovaries and the inelastic condition of the broad ligament, it is not infrequently difficult, indeed, impossible to form a pedicle without producing so much tension upon the extremities of the stump as to render them prone to retract and thus loosen the ligature, or even to pull away so far as to leave unprotected a raw surface, which is liable to bleed, or if the tissues do not retract, the tension may be so great as to induce cutting of the tissues by the ligature and thereby lead to oozing or active bleeding. Again, by the *en masse* ligature it is sometimes found impossible to include the Fallopian tube near the uterine cornu.

2. The constriction of the nerves included in the *en masse* ligature is a source of pain, which will sometimes persist for many days or even weeks.

3. An incised surface is left exposed to engender adhesions, which, if formed, result in painful action or occlusion of the bowels. This is a grave objection to the method and one generally acknowledged. The milder forms of adhesions are a prolific source of pain and obstinate constipation, so serious indeed, in some instances as to demand a second operation for their relief, while not infrequently the intestine will so adhere as to lead to ileus and death, if prompt interference is not instituted. Three cases of obstruction of the bowels, the results of intestinal adhesions to the stump, have been reported to our local society within the last two years. One of the cases occurred in my own practice, one in the practice of a colleague in which I assisted in re-opening the abdomen, to find a coil of intestine so attached to the stump as to induce an acute flexion of the intestine and complete occlusion, and the third one resulted from an operation done by a member of this Section.

Various methods have been resorted to, to avert the danger of adhesions, such as the cauterization of the stump and cutting out a wedge-shaped piece from the distal end of the stump and turning the raw surfaces in by sutures. That cauterization is not efficient is demonstrated by the fact that in two of the cases above referred to this plan was adopted. It is seldom possible to turn in raw surfaces, because the ligatures can not be applied far enough away from the tubes and ovary to leave sufficient tissue beyond the ligature to make the procedure a safe one.

For two years the writer has been earnestly striving to devise some method that is safe and free from the objections of the *en masse* method. He does not claim to have found a method safe and applicable to all cases in which it is necessary to remove the tubes and ovaries. He does claim, however, that when the method he proposes is applicable it is far superior in its results to the older method.

The method is as follows: after proceeding in the operation in the usual manner until the adhesions

are so far broken up as to permit of the tubes and the ovaries being brought into view, the uterus is lifted up toward the abdominal incision by the instrument presented by the finger of an assistant making pressure through the vagina. A provisional ligature is thrown around the Fallopian tube, close to the uterus. With scissors, the tube is cut off beyond the ligature, the severed end is seized by the thumb and finger of the left hand, gentle traction is made upon it, while with a pair of blunt-pointed scissors or knife, the tube is cut away by severing the mesosalpinx close to the tube. After its removal, one or two small arteries will be found spurting. They may be caught with forceps and tied with fine catgut. The ovary may now be taken in hand and its attachments to the broad ligaments severed close to the organ. Here, if one or two small arteries spring, they should be securely tied. Now with a straight needle threaded with fine catgut, begin at the outer margin of the incised surface, and with a running stitch close in all the raw surfaces, using the Lembert stitch.

This completed, tunnel out the uterine end of the Fallopian tube and close in the raw surfaces by one or two stitches of fine catgut. Then remove the provisional ligature. Proceed upon the opposite side in a similar manner. A dextrous and rapid operator will require from five to eight minutes to accomplish this work, if both sides are treated in the same manner. The writer has effected it in three minutes upon one side. It requires a slightly longer time than the *en masse* method, and this may be an objection to it in some rare instances, when rapidity of work is demanded on account of the critical condition of the patient.

The method is not easily applied, when for any reason the uterus can not be brought up near the abdominal incision. This may be the case when the operation is done during the acute stage of pelvic inflammation. In these cases, I question the propriety of energetic efforts to elevate the uterus. In two instances of this kind I have employed the method with satisfactory results, though through a somewhat longer incision than is necessary by the *en masse* method. When there are gross adhesions of the appendages and the uterus, these should be broken up before the uterus is elevated. Ordinarily no difficulty is experienced in this procedure. The vagina should be disinfected before bringing the patient to the operating room. As a preliminary step, the stem may be introduced into the uterus by an assistant before beginning the section, and held in a position ready for use when the adhesions have been liberated.

A large-sized urethral sound may be used instead of the elevator, or the finger of an assistant may elevate the uterus. The elevator I show, however, is superior to these means, for the reason that it gives better command of the position of the uterus. In two instances, I have employed this method without elevating the uterus. In such cases more difficulty was experienced in tying the arteries and in closing in the raw surfaces. For the latter purpose, short curved needles were used, carried by a needle holder, whereas when the uterus is elevated, a straight needle carried by the fingers is the preferable and the quicker course to pursue. The advantages claimed for the method are, that by means of it, the pain following the operation is much less than by the old method and there are left no exposed surfaces to engender adhesions.

The writer has employed it now nine times with great satisfaction in each case. A brief history of four cases are given, to show that the method has a considerable range of applicability:

Case 1.—Mrs. A. was operated upon at her home near Frankton, Ind., with the assistance of Dr. Coverly, of Frankton and Dr. H. E. Jones, of Anderson, May 22, 1893. There were found on abdominal section, a small ovarian tumor upon each side, a pyosalpinx upon the right side and a malignant disease affecting the omentum and mesenteric glands. It was found impossible on account of dense adhesions to lift the tumors out of the pelvis or to discover a pedicle. A circular incision was made around each tumor near the base, but only through the outer coat of the cyst wall. This incised portion was pressed downward and finally the hand slipped under the tumor, when it was lifted out of the pelvis and the left one delivered without rupturing. The right one was ruptured in attempting to deliver it through the abdominal incision.

Two arteries spurted upon each side, and were secured with difficulty. The Fallopian tube upon the right side was severed near the cornu and was removed by cutting the mesosalpinx near the tube. Two small arteries were seized and tied and the raw surfaces turned in by two or three catgut sutures. There was quite an amount of oozing from surfaces caused by separating adhesions upon the right side, so strips of gauze were packed into the pelvis, effectually checking the hemorrhage. The malignant neoplasms could not be removed. The abdomen was closed in the usual way. The patient made an easy recovery from the effects of the operation. In this case the method greatly simplified the operation. It would, however, have been more difficult had we not employed a long incision.

Case 2.—Mrs. B., a colored woman, was operated upon by abdominal section at the regular Wednesday clinic Oct. 17, 1894, at the Indianapolis City Hospital in the presence of the hospital staff of assistants and about one hundred and fifty students. There were gross adhesions. After enucleating a small intraligamentous cyst from each side and a small fibroid tumor from the uterus, one Fallopian tube was found to be distended by pus. The tube was so bound down by adhesions as to make it difficult to form a pedicle, so the cornual end was tied with catgut, the tube cut off beyond the ligature, the severed end seized and the mesosalpinx severed near the tube throughout its entire length. But a single artery spurted. This was tied and the raw surfaces turned in as in the former case. The cornual end of the tube was tunneled out and the edges turned in and sutured. The patient made a good recovery.

Case 3.—Mrs. C., aged 32 years, was operated upon by abdominal section at my private hospital March 14, 1895, in the presence of Dr. Potter and my assistants. This was a case of recurrent diffuse pelvic inflammation of many years' standing. The uterus was retroverted and adherent. The tube and ovaries were prolapsed and adherent. After separating the adhesions the uterus was elevated by an assistant making pressure from below with a finger in the vagina. The appendages were examined and those upon the left side found so much diseased that their removal was deemed advisable. They were extirpated with ease and expedition by the method described above. The fundus was anchored to the anterior abdominal wall by two silkworm gut sutures passed through each horn of the uterus and up through the abdominal wall and fastened to a button upon the external surface of the abdominal wall. The ease with which the operation was done, the freedom from pain and the easy recovery of the patient were most gratifying.

Case 4.—Miss D., a young woman aged 23, was operated upon at my hospital April 24, 1895, in the presence of Dr. Mauk, of Cambridge City, Ind., and Drs. Pfaff and Ferguson, of Indianapolis. The case was one of diffuse pelvic inflammation of three months' standing. There were many firm adhesions. The right tube and ovary were liberated and brought up with considerable difficulty. But little difficulty was experienced in elevating the uterus. The method as described was employed in all its details except that interrupted catgut sutures were used to close in the cut surfaces, and with the addition that the uterus was tilted to one side by making traction upon the provisional ligature. This, to some extent, facilitated the work.

We found it necessary to tie but two arteries and they were small ones. The ease with which the complete removal of the ovary and the tube can be effected was well illustrated by this case. It would have been difficult if not impossible,

to have applied the *en masse* ligatures so as to have removed the whole of the ovary.

This proved to be a pus case (pyosalpinx), and the wisdom of the provisional ligature and subsequent tunneling of the cornual end of the tube was exemplified. The left Fallopian tube and ovary, though imbedded in adventitious tissue were when brought out of the incision and examined, thought not to be sufficiently diseased to demand their removal, so they were dropped back and the abdominal incision closed. The patient is making an easy recovery.

In conclusion, I wish to say, that my experience with the method in the nine cases in which it has been employed has been most gratifying. The pain experienced by the patients has been much less than it has been in other cases in which the old method has been employed. There has been no case of secondary hemorrhage or adhesion to the stump. In some instances, in which the patients are prone to hemorrhage, I should be cautious in employing it; indeed, I abandoned it in one case, where much hemorrhage resulted in cutting the mesosalpinx.

If the hemorrhage does not cease after tying the arteries, a pedicle can be easily made and the whole secured by the *en masse* ligature. In one or two instances after cutting away the tube, the mesosalpinx has retracted. Some trouble was experienced in securing the arteries. This occurrence may be avoided by seizing one edge of the severed mesosalpinx with a tissue forceps. I am sure if the method yields as good results in other hands as it has in mine, the *en masse* ligature will hereafter be employed only in special cases.

THE ETIOLOGY AND TREATMENT OF INFLAMMATIONS OF THE UTERINE APPENDAGES.

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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NEW YORK.

For some years past the surgical tendency of the gynecologist has completely overshadowed the rational treatment of diseases of the uterine appendages, and may be regarded as a confession of inability to cure; for it can no more be claimed that ablation of organs so important to the female economy is a cure of the morbid process, than amputation of a limb is a cure of the injured or diseased member.

General surgery has passed this stage of wholesale sacrifice of useful members, and to-day the saving of an injured limb is more creditable to the surgeon than a skillfully performed amputation. Gynecology must soon pass this stage also, for the limit of extreme pelvic surgery has been reached and the sad plight of the woman (?) who has survived the removal of her ovaries, tubes and uterus is beginning to be realized. I venture to predict that the gynecologist who saves the greater number of tubes and ovaries within the next ten years will win greater renown than he who removes the most. Any one who has had experience with diseased appendages will admit that it is much easier to remove them than to attempt to bring about resolution of the morbid process and save them. The same is true of a badly crushed arm or leg. But which is the more creditable procedure and which would you prefer to adopt, if the patient was your own wife or daughter?

The contention is not that these inflammations of the tubes and ovaries can always be cured, but that it is frequently possible, and that unless immediate operative interference is actually demanded, the patient should be given the chance and the attempt should be made before submitting her to a radical operation. In view of the fact that treatment directed toward attaining this end does not militate against a subsequent operation for their removal, should it become necessary, but on the contrary, improves the chances of an ultimate successful result—it is a perfectly rational procedure and one which should always be adopted. Remember, that once removed they can not be replaced.

In the light of recent developments in the etiology and pathology of inflammations of the appendages, is not the removal of these organs without previous attempt at a cure or removal of the cause which may be operating to maintain such a condition, to be regarded as a serious error? It would certainly be more rational to institute measures, first, which will bring about a cure of any disease of the uterus or other pelvic organs which may be acting as a maintaining cause. It will be asserted that this is the course usually pursued and that no case is submitted to a radical operation unless it is absolutely certain that it is the proper procedure to be adopted. But is this strictly true? Is it not a fact that tubes and ovaries are being removed every day without any previous effort on the part of the operator to cure the disease or remove conditions which may be producing it? It may be true that not so many are sacrificed now as a few years ago, but they are still removed too often for disease which is amenable to patient and persistent treatment, or which may be cured by a minor surgical operation, involving no risk, such as curettage or repair of a lacerated cervix.

My purpose, in presenting this subject for your consideration, is to show how many of these conditions are curable where a radical operation is usually believed to be necessary, and I will relate briefly the histories of some cases, which are conspicuous examples, substantiating this statement.

It will not be possible, in a brief paper like this, to consider these conditions in other than a general way, for to go into the details of the different stages of the morbid process would consume too much time.

Clinically, inflammations of the uterine appendages may be divided into salpingitis and ovaritis, for though they are often so intimately associated as to render their separation impossible, yet it is sometimes true that either the one or the other (tube or ovary) is more distinctly involved and demands separate consideration. It is quite impossible to institute rational and successful treatment without first ascertaining both the direct and indirect cause of the morbid process. Usually, the cause of salpingitis is readily ascertainable, but that of ovaritis is often remote and obscure. It is evident, therefore, that it will be more satisfactory to consider them separately in outlining the plan of procedure to be adopted.

Salpingitis will be divided into catarrhal, and that due to septic infection from the extension of a similar inflammation from the endometrium. Catarrhal salpingitis may occur coincidently with a catarrhal

endometritis without previous existence of the latter, and occurs as a result of imprudence which precipitates suddenly and frequently a marked pelvic congestion or engorgement. In this respect it differs from inflammation due to septic infection as well as in another very important particular; viz., that it is less virulent and it is consequently more readily controlled. I believe that it seldom occurs as an acute inflammation but that in the beginning it rather partakes of the nature of the, so-called, subacute process which is simply a hyperemia attended with hypersecretion from the mucous membrane. As a result of continued and repeatedly provoked hyperemia, a chronic inflammation of the mucous membrane is developed which may eventually involve the deeper tissues and produce structural changes. It is possible that the secretions may accumulate in the tube and produce distension, since the caliber of the uterine end of the tube becomes obstructed in consequence of edema and infiltration of the mucous membrane. The abdominal ostium must also become obstructed to permit distension and this occurs no doubt in a similar manner. Such tubes are frequently mistaken for pyosalpinx or hydrosalpinx and removed. I am satisfied that hydrosalpinx when formed on one side only, with the other tube in good condition and functionating, is frequently produced in this manner and is rather the result of chronic catarrhal inflammation than septic infection from the endometrium. Acute exacerbations may occur when the tube is the seat of chronic catarrhal inflammation which may readily be mistaken for a primary acute salpingitis. The process is rather a perisalpingitis due to an extension of the inflammation from the interior of the tube. Such cases may present to a most rigid examination all the appearances of inflammation due to septic infection, and the appendages are often found to be surrounded by exudation if the inflammatory process has been going on for some time. This is the difference, however,—it yields more readily to treatment. This may be due to the fact that the structural lesions are not so extensive.

As a proof of what has been said, we often find the appendages the seat of chronic inflammation and surrounded by more or less exudation in cases where there has been no chance for infection and there is no history of an acute stage having preceded it.

On the other hand, inflammation of the tubes, due to septic infection will be ushered in by an acute inflammatory process of marked severity which must occur sooner or later after infection of the endometrium and as a result deep structural lesions occur early. When they are extensive and especially when due to gonorrheal infection, there is little chance of producing resolution by any method of treatment. The inflammatory process, which first involves the mucous membrane by extension from the endometrium, rapidly spreads to the muscular structure of the tube walls, and even to the peritoneal covering. The abdominal ostium is obliterated early and drainage into the uterus is prevented by infiltration of both the mucous membrane of the tube and the uterus, and also of the muscular structure. This obstruction may or may not be permanent; this depending upon the extent of the lesions produced. Some authorities contend that the uterine end of the tube is seldom occluded, but that the obstruction due to infiltration may be overcome and the tube drained into the uterus. I believe that when the inflammation has subsided in the tube and it has become distended, the obstruction at the uterine end is often maintained by hypertrophy of the endometrium, surrounding the orifices of the tubes upon its surface, and that it may be overcome by removing this condition. When this is possible and drainage can be maintained a cure is possible, though the function of the tube may not be restored. If, however, actual occlusion of the uterine end of the tube has occurred, drainage can not be established and a radical operation is imperative if there is much distension. Cases where the tube is bent upon itself, prolapsed and is adherent, come under this head.

Ovaritis exists as an acute or chronic inflammation and is frequently a sequence of salpingitis, though it sometimes occurs independently of this condition. The lymphatics may convey infection directly from the uterus to the ovaries and thus septic inflammation may result there independently and without involvement of the tubes, though this is rare.

The acute form may occur coincidently with salpingitis, being produced by the same causes, but a condition of hyperemia and hyperasthenia which is sometimes regarded as an inflammation, frequently results from imprudences during menstruation, too frequent and excessive coition, ungratified sexual excitement and constipation.

Structural changes, characteristic of chronic inflammation, may result from the acute stage, but chronic ovaritis does not often follow the acute process. Most frequently it begins insidiously and develops gradually from this condition of hyperemia. Probably one of the most frequent causes of chronic ovaritis is laceration of the cervix during parturition, with consequent infection through the medium of the lymphatics which are well known carriers of infection. It is a well established fact to my mind that this lesion, if unrepaired, is a constant source of irritation which reflects upon the ovaries and maintains in these organs a state of hyperemia and hyperesthesia. Further on, I will relate several instances of this kind, where a cure was effected by repair of the cervix.

Chronic ovaritis may exist as a condition of atrophy, hyperplasia or cystic degeneration, but the term is most frequently applied to a condition of passive hyperemia which, if unrelieved, may result in hyperplasia. This may be produced by the causes mentioned above or by any other source of irritation of the uterus, such as endometritis or growths within the uterus, especially if located in the cervical canal, such as small polypi. Fissures of the anus, ulceration of the rectum and chronic proctitis are also frequent causes of ovarian irritation and hyperemia which are often overlooked.

Any treatment, which has for its aim the establishment of drainage of diseased tubes into the uterus, the removal of the hyperemia and infiltration and the absorption of the surrounding exudation may be regarded as a perfectly rational procedure, and one which should be adopted, when possible, in preference to their removal. If this object can be accomplished (and it is frequently possible), a cure may be effected and the woman will be restored to a life of usefulness and happiness.

If this much will be admitted, the principal thing to be considered is the best manner of accomplishing this result.

When salpingitis is found to be associated with a severe type of chronic endometritis, with an hypertrophied or granular condition of the mucous membrane, the first step in the treatment should be dilatation of the canal, thorough curettage of the cavity of both the body and the cervix, followed by packing with iodoform gauze to secure thorough depletion and drainage. Especial care must be observed in removing the hypertrophied membrane from the vicinity of the internal os and both cornua. This latter is best secured by using a small size curette which will reach up in the angle at the entrance of the tube and should be employed after the cavity has been gone over by an instrument of larger size. The removal of these granulations or hypertrophied elevations of the mucous membrane about their orifices facilitates drainage from the tubes in the same manner as removing the superfluous granulations about the entrance of a fistulous canal. They obstruct drainage in the same manner. A sharp curette may be required for removing the hypertrophied tissue at the internal os. The extent of dilatation required is not nearly as great as is usually considered necessary. A moderate dilatation under anesthesia gradually accomplished by means of the steel dilator, sufficient for the easy introduction of the curette, is all that is necessary. The gauze packing, if carefully done, will effect still further relaxation. Divulsion is unnecessary and should never be done.

The technique of the operation is important and is as follows: the vagina and vulva are first rendered aseptic, then after sufficient dilatation has been accomplished the double current irrigator should be introduced and the cavity thoroughly cleansed with either a solution of bichlorid (1 to 4000), or what I often prefer, a 1 per cent. solution of lysol (hot). Then the cavity is curetted and again irrigated with the same solution until all oozing has ceased. The cervix is now fixed by a double tenaculum and a strip of 20 per cent. iodoform gauze, the absolute sterility of which has been previously assured, is introduced by means of a long applicator forceps, here shown, and carried well up into both cornua, the cavity filled and the cervical canal also. The gauze is cut into strips one yard long, and three-fourths to one inch wide. Usually, the whole strip can be packed into a uterus of moderate size. The vagina is then filled with wider strips of the same gauze and an aseptic pad is placed against the vulva. The patient is to be confined to bed while the gauze remains in the uterus. Usually, a week is sufficient for this part of the treatment. Instead of permitting the gauze to remain undisturbed in the uterus for several days, which is the practice of some gynecologists, I deem it necessary to remove it every twenty-four hours, at least; for it ceases to drain when the gauze in the vagina becomes saturated. Upon removing it, the cavity of the uterus should always be irrigated with a hot 1 per cent. lysol solution and the gauze is re-applied as described above.

Let it be understood, both by the physician and the patient, that the operation and the subsequent gauze packing is only to be regarded as a preliminary step in the treatment, and that it is necessary to maintain free drainage from the uterine cavity and tubes, remove all sources of irritation and institute measures which will promote absorption of surrounding exudates and relieve the engorgement of the pelvic vessels. To accomplish the first end, a patulous condition of the cervical canal must be preserved and the uterine cavity must be kept free from all *débris*, such as small clots and particles of mucus, which, if retained, would be a source of irritation. This is accomplished by the occasional introduction of a small (clinical) irrigator and washing out with a 1 per cent. solution of lysol; or Thiersch's solutions may be used if an astringent action is desired. I never use anything else and never employ iodin or carbolic acid in these cases. If the canal becomes too much contracted to permit the easy introduction of the irrigator, it is connected with the negative pole of the galvanic current as an electrode and about 10 milliampères turned on. This will facilitate its introduction and if the current is allowed to remain on during the irrigation it exerts a stimulating action upon the endometrium through the medium of the liquid projected through the irrigator.

The second object (the absorption of exudates and the restoration of the normal circulation of the pelvis) is accomplished by the persistent application of the faradic current of high tension, made sufficiently stimulating to suit individual cases. I know of no better way of accomplishing this end and nothing which I have employed has given such prompt and satisfactory results. It serves a double purpose in these cases, since it not only quickens the capillary circulation and hastens absorption, but by stimulating contraction of the tube walls and the uterus, it favors evacuation of the tubes into the uterus and empties the uterus as well.

In some of these cases it is better to institute some preparatory treatment before the operation which will relieve the extreme sensitiveness, lessen the surrounding congestion and remove the infiltration and exudation, and for this purpose I employ the fine wire faradic current to great advantage. At the same time, the bowels should be kept relaxed and the patient's diet and digestive apparatus must be regulated.

Under this plan of treatment it has frequently happened that tubes which were considerably distended have been evacuated while the gauze was in the uterus and they have not refilled. In other cases evacuation does not occur until after the packing has been discontinued and the stimulation of the faradic current is employed. The probable explanation is, that in some instances, the barrier to drainage from the tubes is infiltration of the tube walls, or the pressure of surrounding exudation, which is removed by this latter method of treatment. Faradic stimulation here promotes the evacuation of the tube into the uterus, by exciting contraction of the tube walls, which is vermicular and in the direction of the uterus.

When salpingitis is associated with a simple catarrhal endometritis, curettage is not needed. The occasional introduction of a conical dilating electrode connected with the negative pole of the galvanic current (10 to 15 m.) to render the canal free, and favor drainage from the uterus, together with frequent applications of the fine wire faradic current to relieve engorgement of the pelvic vessels and promote the removal of infiltration of the mucous membrane will give satisfactory results in the majority of cases. When the secretion is abundant and does

NOTE:—In a paper which I read recently before the New York Academy of Medicine upon the "Physiologic Effect of Periodic Induced Currents," the exact manner of their action in bringing about these results was clearly explained.—See American Medico-Surgical Bulletin, April 15.

not drain away readily, it will be better to irrigate the cavity twice a week with a warm lysol solution by means of the small clinical irrigator, followed each time by faradic stimulation with the fine wire current. This may done at the office and after a short rest the patient may be permitted to return home. It is astonishing what immediate and lasting relief this treatment affords the patient. If she comes into the office with a dragging sensation in the pelvis and a tender painful condition about the uterus she is immediately relieved by washing out the uterus, because the source of the irritation, retained secretions within the uterus, has been removed. Frequently the symptoms do not return for several days.

Some care is necessary, however, in carrying out this treatment, to avoid provoking undue irritation in introducing the irrigator and washing out the uterus. No force should be employed, but first ascertaining the direction of the canal, the instrument is inserted as far as it will enter readily which is usually up to the internal os, then the current is turned on and it is allowed to slip in under very gentle pressure. The irrigation should be continued until it is absolutely certain that everything has been washed away and the cavity is clean. Then the inflow of the solution must be stopped and that remaining in the cavity of the uterus must be permitted to drain away through the return flow tube of the irrigator before it is removed. The cavity is thus left perfectly clean and empty.

The treatment of ovaritis consists in removing the source of irritation or the cause when ascertainable, as far as possible. When it is associated with and dependent upon an endometritis or salpingitis, these should be treated in the manner described above. When dependent upon an injured or diseased cervix it must be repaired or removed. If it is found that the rectum is the seat of disease, or there is fissure of the anus, it must be cured before we can expect to relieve the ovarian irritation.

Relief of the symptoms may be afforded by treatment directed to the ovary alone, but it will only be temporary and not permanent until the cause of the irritation is removed.

I recall many instances where patients suffering with ovaritis have been brought to me by their physicians who had employed electricity for months without permanent benefit, and it has been found that the cause of the condition has been disregarded and overlooked.

In employing this agent in the treatment of ovaritis, the preference is to be given to faradization in the majority of cases, because it affords quicker relief of the pain and the result is more satisfactory, especially if the condition is one of hyperemia with infiltration or exudation. In conditions of hyperplasia, galvanism or a combination of the faradic and galvanic currents is more appropriate and gives better results. In employing the galvanic current for these conditions a moderate strength continued for a longer time produces the best effect

The importance of discriminating in the choice of the current to be employed in certain conditions of ovarian inflammation, as well as the necessity of removing the cause of the irritation, is well illustrated in the following case:

Case 1.—The patient, a young girl of 18, had been for over a year under the care of a prominent gynecologist in New York for ovaritis. During this time he had persistently employed the galvanic current, and failing to derive any benefit therefrom he suggested removal of the ovary as the only possible means of relief. She was then brought to me and began to show immediate improvement when the fine wire faradic current was substituted. But no permanent benefit was obtained until the rectum and anal orifices were restored to a normal condition. The cause of the ovarian irritation and hyperemia proved to be an inflamed rectum, with fissure of the anus, associated with obstinate constipation. Two years have now elapsed, there has been no return of the trouble and the patient is in excellent health.

The digestive apparatus is often at fault in these cases and constipation is frequent and annoying. There is no doubt that this is a prolific cause of ovarian irritation and inflammation which is often overlooked or disregarded.

Malnutrition, which may be attributed often to disorder of the digestive apparatus, brought on by improper food, is also indirectly a cause of ovaritis and is to be counteracted by careful attention to the diet and the state of the excretory organs.

A congestion of the ovary may be maintained by interference with its circulation, due to the pressure of an exudation in the broad ligament, which may be removed by stimulating absorption with the fine wire faradic current.

A condition of atrophy of the ovary is frequently produced by the pressure of exudation which interferes with its circulation and function, and is often associated with either absent or very scanty and imperfect menstruation. It may be cured if the exudation can be removed and the menstruation restored to normal activity, if it has not existed for too long a time.

Cystic degeneration of the ovaries is very rarely benefited by any form of treatment, and if the symptoms are persistent and are sufficiently annoying to warrant it they should be removed. This is a condition, however, which is difficult to diagnose without inspection.

If a septic inflammation of the ovary has progressed to that point where an abscess has developed, its prompt removal is the only course to be adopted, and neglect to do so is as unwarranted as a hasty operation in other conditions when it is not necessary.

Ungratified sexual desire has been stated as a cause of ovarian irritation and inflammation, and there is no doubt that it exists in some instances without the knowledge of the woman so afflicted. A case which serves as a forcible illustration of this was related to me by a gynecologist of some prominence in New York:

Case 2.—A lady of refinement and education who was left a widow after several years of married life, without children, developed a most intense ovarian irritation and inflammation which gave rise to so much suffering as to make her an invalid. Everything possible had been done for her by different specialists whom she had consulted but with no benefit. She was advised and urged to have her ovaries removed and finally consented to the operation, if after an anticipated trip and rest abroad she was no better. On the steamer going over she chanced to meet a gentleman of whom she became very much enamored. They became engaged and on her return to New York she hastened to ask her physician if her condition should prevent her from marrying, and if marriage would aggravate her condition and cause greater suffering. He discouraged her and advised against it, believing that it would be worse for her. He again urged her to have the operation performed. Much to his surprise, a month or two after this he received an invitation to her wedding. Meeting her there she explained that she had not taken his advice because she was so deeply in love with the gentleman that she had determined to take the chances and if she became worse, afterward, with his consent,

she would have the operation performed. Several months elapsed before he again saw her, during which time they were absent from the city. She then told him that from the time they were married she ceased to suffer and was now perfectly restored to health, which her appearance made quite manifest, and asked him if he could in any way explain her cure. He suggested the cause of her suffering which had been removed, but she disclaimed any knowledge whatever of the existence of any such cause.

The following case shows that an intractable inflammation of the ovary may be overcome by restoring a normal condition of the uterus and cervix which was the cause:

Case 3.—Mrs. B., age 35, married at 17, two children, the last 12 years old, came to my clinic in May, 1893, suffering with intense pain in the left ovarian region. The left ovary was enlarged to about the size of a walnut and there was chronic metritis and endometritis with an old laceration of cervix and cystic degeneration. The pain in this case was relieved temporarily by faradization, but returned with the same severity whenever treatment was discontinued. The patient's general health improved greatly while under treatment, but as no permanent benefit to the ovarian condition was obtained, I feared that I would be obliged to remove the ovary. Before doing so, however, I curetted the endometrium and repaired the cervix, being particular to remove all the diseased tissue possible. Upon getting up after the operation she was overjoyed to find that she no longer suffered pain in the ovary and there was no return of it. Within three months she became pregnant, though she had been sterile for twelve years, and subsequently was delivered at term. She has suffered no inconvenience with the ovary since and it is about normal in size.

The next case, one of fixed retroflexion, cervical laceration with metritis and endometritis, salpingitis and ovaritis resembling cystic degeneration, illustrates what may be accomplished by patient and persistent treatment and restoration of a normal condition of the cervix:

Case 4.—Mrs. T., age 33, married fifteen years, mother of three children, last 7 years of age, was sent to me by her physician in Columbia, S. C., October, 1893. Her ill-health dated from the birth of the last child, which was followed by pelvic peritonitis due to septic infection following labor. When she first came under my care she could not walk a block without great fatigue and suffering; she was anemic and her general health was greatly impaired.

Examination revealed an immovable retroflexed uterus, surrounded by exudation, both tubes and ovaries involved, a bad metritis and endometritis with bilateral laceration of the cervix and laceration of the perineum.

Celiotomy had been advised, as the only possible means of relief.

The treatment instituted was fine wire faradization daily, and drainage from the uterine cavity, promoted by the application of negative galvanism to the canal. Later, when the uterus was rendered movable and could be replaced, a soft whalebone pessary was introduced. Six weeks after beginning treatment the cervix and perineum were repaired. The period occupied in the treatment was three and one-half months. At this time she was able to return home and was directed to have the faradic application continued twice or three times a week. She was able to walk a considerable distance without fatigue or without suffering any pain or inconvenience in the pelvic organs, and was then wearing a hard rubber pessary. She continued to improve and within a year after she had entirely regained her health and strength.

The next case shows how pelvic exudation may be removed by faradic stimulation unaided:

Case 5.—Mrs. L., age 37 years, one child twelve years before and one miscarriage, six years before, came to my clinic in 1893. Menstruation consisted only of a few drops and was attended with great pain. She could walk only with the greatest discomfort, the slightest jar giving her great pain. Examination revealed the pelvic organs absolutely fixed by surrounding exudation. The diagnosis was chronic metritis and salpingitis and ovaritis with exudation. There was an old laceration of the cervix with cystic degeneration. Under faradization alone, nothing else being employed, the pain was immediately relieved and within a few months the exudation had disappeared and the uterus was movable. Subsequently the cervix was repaired, the diseased tisue being carefully removed. The patient is now in excellent health and menstruation is free from pain and more normal in amount. The uterus is freely movable. Examination under anesthesia at the time of the operation showed no abnormal condition of the appendages remaining.

Case No. 6, illustrates the benefit to be derived from curettage and gauze packing, in securing drainage of distended tubes into the uterus:

Case 6.—Mrs. H., age 28 years, married six years, consulted me in December, 1894. She suffered only slight dysmenorrhea until a miscarriage which occurred two years after marriage, when she began to have more or less pelvic pain and profuse leucorrhea. Examination revealed an endometritis with salpingitis, left tube distended to size of the thumb with some infiltration about the tube and ovary. Dilatation, curettage and gauze packing secured evacuation of the tube after the third day. The subsequent treatment consisted of irrigation of the cavity twice a week. Drainage was maintained and the tube did not refill. Duration of treatment six weeks. The cure has been complete and so far permanent.

The next case, one of pyosalpinx, was drained into the uterus and cured without curettage, and pregnancy followed:

Case 7.—Mrs. A., age 23 years, married four years, sterile, consulted me in May, 1892, for a condition which began shortly after marriage. She suffered some dysmenorrhea before marriage. About a year after she became very much worse and began to suffer with pelvic pain, backache and leucorrhea. Her general health was greatly impaired and she was anemic. Diagnosis: endometritis and salpingitis, the right tube being distended to about the size of a small egg. Celiotomy had been advised by specialists in Detroit and Pittsburg, but was declined. The tube was so much distended and obstructed, I feared that I would also have to advise an operation, and told the patient that nothing could be promised positively from treatment, but under the negative galvanic applications to the uterine canal and fine wire faradization the tube began to drain into the uterus within two weeks and eventually emptied completely. The discharge was muco-purulent in character. The walls of the tube contracted and it did not refill.

The duration of treatment was three months. She was then so well that she went West to join her husband. A year later on her return to New York, I found her pregnant. She was confined in October last, the labor being normal and easy. Her health has been good since.

In marked contrast with the foregoing case, the next illustrates a class of cases which can not be drained, though the symptoms may be relieved by treatment, when operative interference is prohibited:

Case 8.—Mrs. S., age 24 years, married six years, sterile, consulted me in August, 1892, for the relief of a constant dragging pain in the back over the sacrum, and pelvic pain referred more especially to the left side, associated with dysmenorrhea and at times with considerable leucorrhea. These symptoms dated back several years, but had become more pronounced within the last two years. Examination revealed a smooth elastic tumor, posterior to the uterus in Douglas' pouch, which proved to be an adherent hydrosalpinx. The left ovary was sensitive and enlarged, the right could not be made out. The patient was told that the treatment would afford only temporary relief, that an operation for the removal of the diseased tube was advisable and would eventually be necessary. She objected to the operation, but asked that some treatment be instituted which would relieve the symptoms. The attempt was made to drain by means of galvanic application to the uterine canal and faradic stimulation, with the result that the endometritis was overcome and the pain relieved within two months. She then discontinued treatment but was advised to have the operation performed as soon as the symptoms recurred. She returned after four months, stating that there had been no return of the pain, leucorrhea or dysmenorrhea, but for two weeks she had a return of the backache, and she made up her mind to undergo the operation. I operated March 26, 1893. The tumor proved to be a hydrosalpinx of the right tube and the ovary of the same side was cystic. The tube was bent upon itself near its attachment to the uterus, and was consequently occluded and drainage into the uterus was prevented. The tube and ovary of the other side were left

undisturbed. The patient made a good recovery and has enjoyed excellent health since.

Case 9.—Mrs. G., age 26 years, married seven years, consulted me in June, 1889. Examination revealed partial fixation of uterus and a mass to the left which proved to be the tube distended with pus and surrounded by exudation. There was also an endometritis with considerable erosion of the cervix. Celiotomy had been advised. Her trouble dated from a miscarriage and an attack of pelvic inflammation one year later which confined her to bed for eight weeks. The treatment instituted in this case, was drainage through the uterus, by means of negative galvanic applications to the endometrium and cervix, which acted by overcoming the endometritis and securing free drainage from the cavity, and faradization to promote absorption of the exudation and stimulate evacuation of the tubal contents. The treatment extended over a period of six months but her attendance was irregular, as is the case with many of these patients when they notice improvement.

The result obtained was absorption of the exudation, drainage of the tube into the uterus, disappearance of the tumor because the tube did not refill, cure of the endometritis and mobility of the uterus. The patient was in good health two years afterward.

The next case is one which illustrates how catarrhal salpingitis yields to this method of treatment:

Case 10.—Miss E., 19 years, consulted me in April, 1892. About eight months previously, after exposure to cold during menstruation, she began to suffer pelvic pain, backache and bearing down with profuse leucorrhea. This continued some time before she consulted a physician. She improved somewhat under treatment, instituted at that time, but shortly afterward she got a wetting which precipitated an attack of acute inflammation, confining her to bed for four weeks. After being about for two weeks she was again taken sick and was sent to a hospital in this city. There she was treated by rest in bed, blisters to the hypogastrium and hot water vaginal douches with only slight benefit. Celiotomy, for the removal of the ovaries was then urged, which she refused.

At the time of consulting me she was the picture of abject misery, pale, anemic, haggard and was never a minute free from pain except when asleep. Walking or the least exertion greatly increased her suffering. Her appetite was poor and she did not sleep well. I found her so exquisitely sensitive to vaginal touch that a satisfactory examination was impossible. There was a profuse mucus discharge and the uterus was fixed by infiltration of the surrounding structures. The diagnosis was catarrhal endometritis, salpingitis and ovaritis.

The treatment instituted was fine wire vaginal bipolar faradization. The first application which was continued for twenty minutes dispelled all pain and rendered her perfectly comfortable for eight hours afterward. This was repeated every day. After the third application she remained free from pain twenty-four hours, and moderate exercise caused no pain. This plan of treatment was continued and supplemented later with mild negative galvanic applications to the uterine canal to facilitate drainage. At the end of two months and a half she was able to resume her occupation as stenographer and typewriter. Her health has been good since and there has been no recurrence of the trouble.

This is another case of catarrhal salpingitis, associated with ovaritis and endometritis, which yielded to treatment after celiotomy had been advised:

Case 11.—Mrs. E., age 21 years, married five years, was referred to me by Dr. R. W. Taylor of New York in April, 1894. Three years previous, according to her statement, exposure brought on ovarian trouble which resulted in inflammation. This did not yield to the usual treatment and celiotomy was advised, which she declined. The diagnosis, made at the time she came under my care, was catarrhal salpingitis, ovaritis and endometritis with anteflexion; some infiltration about right tube and ovary.

The treatment instituted was drainage of the uterine cavity, secured by negative galvanism to the canal, and fine wire faradic stimulation, which afforded prompt relief and resulted in a cure. The period of active treatment was about two and a half months. She was kept under observation for several months afterward but there was no recurrence of the trouble. The extreme anteflexion was overcome. At the present time the patient is in excellent health.

Case 12.—Mrs. C., age 31 years, widow, one child 17 years old, was referred to me by her physician. Some years before, she had an attack of pelvic inflammation resulting from septic infection which caused fixation of pelvic contents. The uterus was retroflexed and surrounded by exudation which involved the appendages of both sides. Both ovaries were enlarged and exceedingly sensitive. The right tube was distended. The cervical canal was contracted and consequently drainage was defeated. Her menstrual period was accompanied with so much pain and prostration that she was compelled to remain in bed for the entire period. The attempt to dilate the canal and promote drainage by means of negative galvanism provoked so much irritation that it had to be abandoned. But the extreme sensitiveness was relieved by faradization and the uterus was rendered partially movable. Then under anesthesia the canal was dilated, the uterine cavity was thoroughly curetted and packed with gauze. Before the gauze was introduced, the uterus was replaced by careful manipulations which freed the adhesions. The vagina was then tamponed with iodoform gauze to maintain the position of the uterus.

The distended tube discharged into the uterus within a week, the fluid being thin and serous in character.

This treatment was followed by frequent irrigation of the uterine cavity with faradic stimulation and a pessary was inserted as soon as it could be borne.

Now (three months after the operation) the position of the uterus is maintained by a pessary which is worn without discomfort. The tube has not refilled. She experiences no pain, though she is constantly on her feet in attending to her duties as housekeeper. She menstruates without pain and does not remain in bed during the period. This patient can not be considered cured yet, but she is in a condition where improvement will continue and a cure will result. Celiotomy had been advised in this case and, at one time, I feared it would be necessary.

I could relate many more cases similar in character, but these will suffice to illustrate my point. Remember, they are selected cases, many of them being chosen because a radical operation had been advised by another operator before they came under my care.

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DISCUSSION.

Dr. Charles P. Noble, Philadelphia—said that the method of treating the stump, advocated by Dr. Dunning, was practically the same as that employed by Dr. Pratt, of Chicago. The only difference he saw was that the latter did not put in a provisional suture. With reference to Dr. Goelet's paper, while it was interesting, it did not contain anything particularly new in the treatment of inflammatory diseases of the uterine appendages.

Dr. M. Price, of Philadelphia—wished to criticise the constant tendency to new methods, and calling them "my method." This is not necessary, because the rules laid down by the older surgeons, such as Tait, Keith and Bantock, answer every purpose. He agreed with the statement made by Dr. Goelet in his paper, that many patients with ovaritis and salpingitis are being operated on unnecessarily. During the past year he had turned away many women, telling them that there was nothing the matter with their tubes or ovaries, and yet nearly all of them succeeded in finding another surgeon to remove their appendages. In cases where actual tubal or ovarian disease exists, he regards simple curettage and drainage of the uterus as futile. In many of these cases the cervical end of the tube is entirely obliterated by the inflammatory condition.

Dr. Dunning had little to say in closing the discussion. With regard to the question of priority, he had nothing to say whatever, except that if Dr. Pratt, of Chicago, had been pursuing the method which he had proposed, he was not aware of it. Dr. Noble had, it seems, treated the subject in a very flippant manner and Dr. Dunning thought he would some day encounter a case of obstruction of the bowels, caused by adhesion of a loop of intestine to the raw surface left there, cutting off the tube and ovary, and then he would remember his paper and the method he had advocated.

CELIOTOMY FOR PUERPERAL SEPTICEMIA AND FOR PUERPERAL INFLAMMATORY CONDITIONS.

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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The conditions under which it is desirable to perform an abdominal section in the treatment of the septic and inflammatory complications of the puerperal state are as yet not definitely determined. The problems involved are now pressing for solution, and the subject is receiving serious consideration by many members of the profession. So long as it continues to be a fact, that large numbers of women annually lose their lives from puerperal septicemia, this subject must be studied by the obstetrician and gynecologist, until the prevention and cure of puerperal septicemia are placed upon a thoroughly satisfactory basis. This paper has been prepared upon the invitation of our President, to serve as an introduction to the general discussion of the problems involved. As I have recently discussed this subject upon two occasions, my remarks will be based upon the papers referred to.[1]

Cases of puerperal sepsis and of puerperal inflammatory conditions may be divided into two classes: 1. those in which some pathologic condition is present in the sexual organs before labor; 2, those in which these organs are normal at the beginning of labor.

The first class embraces those cases of sepsis and peritonitis caused by the bruising or rupture of tumors situated in the pelvis, or of purulent or other septic accumulations in the Fallopian tubes, or the adjacent pelvic organs. It is unnecessary to discuss this division of our subject at length, as there is little difference of opinion concerning it, and the nature of its treatment is reasonably plain. That puerperal peritonitis may be due to the bruising or rupture of tumors during labor has long been recognized. Any variety of pelvic tumor may be bruised, or have its blood supply cut off by torsion of its pedicle, and become inflamed and gangrenous, and thus set up a more or less serious peritonitis. Dermoid cysts are especially liable to undergo inflammatory changes when they form a complication of labor. The cardinal points to which attention should be called in this class of cases are, that the birth canal and lymphatics are not involved; hence the conditions present are very similar to those in non-puerperal peritonitis. Prompt operation, with the removal of the tumor, has been followed by a high percentage of cures.

Puerperal peritonitis due to the rupture or bruising of purulent or other septic accumulations in the uterine appendages, existing prior to labor, is not of frequent occurrence. This phase of the subject has not been very systematically studied. The references to it in the literature are very few. In 1891 I called attention to this subject[2], and reported three cases, in which the bruising of pus tubes during labor had set up peritonitis. I have personal knowledge of two other cases which occurred in this city. Of thirty-two eminent American gynecologists, from whom I have received replies to a letter of inquiry concerning this, among other subjects, I find that but three have operated for peritonitis due to a pus tube, which had antedated labor, and each of these gentlemen has operated upon but one case.[3] My other correspondents either had no personal knowledge of such cases, or at the most had merely suspected that the diseased tube may have antedated the labor, instead of resulting from infection after labor. Dr. Lusk[4], of New York, states that he has seen three cases of puerperal peritonitis due to the bruising of diseased tubes during labor.

The fact that such a large percentage of my correspondents have not met with this variety of peritonitis, is conclusive evidence that it is not common, and therefore that its practical importance is not so great as was anticipated some years ago. The comparative infrequence of puerperal peritonitis due to this cause is explained by the fact, that women having even a single pus tube, or other septic accumulation in the pelvis, are usually sterile. The relative dangers of puerperal peritonitis of this variety and the results of operation done for it can not be determined at this time, because there are so few of such cases on record. Theoretically, the prognosis from operation should be relatively good, because the uterus and the pelvic tissues and lymphatics are not involved. The conditions are similar to those of operation for peritonitis in the non-puerperal state. I believe that the proper method of treatment to be pursued in such cases is prompt operation, irrigation and drainage.

The second class of cases, in which sepsis or inflammatory conditions result from infection of the birth canal, in women having normal sexual organs previous to labor, is a far more important one than that just considered. This is the common form of so-called puerperal fever. It embraces cases in which the infection is limited to the utero-vaginal canal, those in which the infection has spread to the broad ligaments through the pelvic lymphatics or veins, and those in which the infection has spread to the peritoneum, either by way of the Fallopian tubes or by way of the lymphatics. As a matter of convenience we will consider first the conditions under which it is advisable to perform an abdominal section for puerperal peritonitis.

Puerperal peritonitis may arise either through the spread of the septic inflammation by way of the Fallopian tubes to the peritoneum, or through the inflammation spreading along the lymphatics, either directly through the uterus to its peritoneal covering, or by way of the lymphatics of the broad ligaments. I am not aware of any investigations which have definitely determined the distinctions in the clinical history of the two varieties of puerperal peritonitis, to which reference has been made. My own opinion is, that in the first variety (by way of the Fallopian tubes) relatively speaking the inflammatory element is more decided and the septic element is less marked, whereas the reverse is true in the second class of cases (by way of the lymphatics). In the first class of cases, I believe it is the rule to have marked efforts at the localization of the peritonitis, by nature's method of pouring out inflammatory lymph,

[1] Puerperal Pelvic Cellulitis and Puerperal Peritonitis, American Gynec. and Obstet. Journal, January, 1895. Celiotomy for Puerperal Septicemia and Peritonitis, American Gynec. and Obstet. Journal, April, 1895.

[2] Salpingitis Considered in its relation to Pregnancy and the Puerperal State, Trans. Amer. Gynec. Society, vol. XVI., p. 480.

[3] Dr. Edward Reynolds, of Boston, Dr. E. B. Davis, of Birmingham, and Dr. Hirst, of Philadelphia. Dr. Coe, of New York, reports that he has assisted at such operations.

[4] Discussion before the New York Academy of Medicine, Feb. 28, 1895, on Dr. Noble's paper "Celiotomy for Puerperal Septicemia and Peritonitis."

and that where this result is accomplished, many of these cases go on to a natural cure, and that more of them result in the formation of post-puerperal pus tubes, and of circumscribed intraperitoneal collections of pus. On the other hand, in the cases in which septic lymphangitis is a marked feature, the element of peritonitis is merely an epi-phenomenon, the condition present being a general septicemia.

Puerperal peritonitis of the first variety may end in death or recovery within a few days, or it may continue for several or even many weeks, in those cases in which it is of mild type at its onset. Lymphatic peritonitis is of relatively short duration, many cases having a fatal termination after a course of a few days. The distinctions just made, I believe, represent the facts of the case from the clinical standpoint, and they are supported by the experience of those who have had large opportunities for observation. If the distinctions here made are correct, I find no evidence that abdominal section has been performed for lymphatic peritonitis in any considerable number of cases. The reports of celiotomies for puerperal peritonitis, with which I am familiar, show that the operations have been done in general after the end of the first week; in other words, at a time in which the subjects of lymphatic peritonitis have either died, which is the rule, or have begun to recover, which is the exception. As supporting this inference, I find that among the thirty-two eminent gynecologists already referred to, only four—Drs. Boldt, Polk, Carstens and Etheridge—have performed celiotomy for general peritonitis within seven days after labor; and only four—Drs. Smith, Etheridge, Polk and Baldy—have operated for localized peritonitis within the same limit of time.[5]

Lymphatic puerperal peritonitis is not amenable to treatment by celiotomy. I know of nothing, either in my own experience or in the literature, which gives the least encouragement for operating upon this class of cases. All who have been operated upon have died. It is not difficult to understand why operation done for lymphatic peritonitis should accomplish so little. A simple celiotomy, with washing out of the peritoneal cavity, does not influence the principal seat of the trouble, which is in the uterus and pelvic lymphatics, and necessarily can not influence the multiplication of germs which already may have entered into the general circulation. The more radical operation of hysterectomy offers but little in these cases, as by the time peritonitis has become a marked feature, either the patient is so reduced as to be unable to withstand the shock of a serious operation, or she is already suffering from marked general septicemia. If these patients are to be saved, they must be operated upon at a much earlier stage, before the development of peritonitis or of marked general septicemia.

Cases of puerperal peritonitis of a more decidedly inflammatory type, that is, in which the septic element is less marked, are more amenable to treatment by operation. In these cases, I believe that the peritoneum has been reached by the spread of the infection along the Fallopian tubes, rather than through the pelvic lymphatics, so that these latter structures are but slightly involved in the morbid process. Polk and Outerbridge have reported successful cases of celiotomy for localized peritonitis done within the first week after labor, and many cases are on record in which celiotomy has been performed at a much later period. I have nothing new to offer concerning the indications for operation in puerperal peritonitis. So far as I know, patients operated upon for general puerperal peritonitis have died; hence, excepting the hope that the diagnosis may be wrong, one would hardly be justified in recommending operation with such a diagnosis. I am aware that certain cases are on record, which have been reported as operations for general purulent peritonitis, including some of the puerperal variety, but an analysis of these cases, I think, will convince the impartial investigator that they were really instances of circumscribed peritonitis, although involving a considerable area. In cases of localized peritonitis, during the first few days of the disease the abdomen should be opened if the attack be a severe one, and if it does not yield promptly to treatment. In cases presenting well marked local lesions, to be made out by bimanual examination, the indication for operation is more urgent than in those in which nothing can be determined by physical exploration. In my judgment such cases should be carefully studied, and operation be elected or rejected because of the conditions present—the symptoms and general course of the case—rather than in accord with any rules applied to such cases in general. Celiotomy is certainly indicated if the attack of peritonitis be a severe one, which does not yield promptly to medical treatment. Also, later in the course of puerperal peritonitis of a milder type, operation is indicated if the patient fails to improve, and is demanded should the case take an unfavorable course. In such cases, however, it should not be forgotten that bimanual examination will usually disclose marked local lesions.

At the present time it is safe to conclude that the prognosis of celiotomy done for general puerperal peritonitis is fatal. In localized peritonitis, the prognosis is best in those cases in which the inflammatory process has become well localized, and in which septic symptoms are slight, or else altogether absent—the case having resolved itself into one of pyosalpinx, of abscess of the ovary, or of pelvic abscess of puerperal origin. The prognosis is fairly good in cases of circumscribed peritonitis operated upon promptly, that is within two or three days of the beginning of the attack, which is equivalent as a rule to the fifth, sixth or seventh day of the puerperal period. Cases which have gone from bad to worse, and in which the operation is done as a last resort, usually terminate fatally.

Celiotomy is occasionally called for in cases of true pelvic abscess, located usually in the broad ligament or iliac fossa, and resulting from a lymphangitis, which has ended in suppuration of the pelvic connective tissue. It is at times difficult to determine whether or not the imflammatory process is limited to the connective tissue of the pelvis, or whether it is complicated with tubo-ovarian or intraperitoneal mischief. In such cases an exploratory celiotomy to determine the extent of the inflammatory trouble is desirable. If the broad ligament abscess is complicated by tubo-ovarian disease, or by intraperitoneal suppuration, the whole trouble can be dealt with through the abdominal incision. If, on the other hand, the morbid process is limited to the connective tissue of the pelvis, and has resulted in the formation of a true pelvic abscess, this can be

[5] Seventeen of them have operated for puerperal peritonitis later than the seventh day of the puerperal period.

evacuated by a second, extraperitoneal, incision, made either in the groin or through the vault of the vagina, as may be best in the individual case. The personal experience of the writer with this method of treatment has been such that he recommends it highly in this class of cases.[6]

We have still to deal with cases of infection of the birth canal, fairly well localized in the uterus, in which the progress of the disease is from bad to worse, in spite of irrigation and curettement of the utero-vaginal canal. This class of cases logically should have been considered first, but because of the nature of the treatment which will be recommended in a certain percentage of them, it has been thought best to treat of it last. In these cases, septic intoxication or beginning septicemia are marked features, the absorption of ptomaines, or of microörganisms, taking place from the uterus or the vagina. Peritonitis, cellulitis or lymphangitis, are either absent or in their incipiency—the infected uterus is the nidus of the morbid process. In other words, we are considering these cases as a class distinct and apart, although it is recognized that within one or two days they would develop into cases similar to those already described. Some years ago a case belonging to this class would have been treated day after day by irrigation of the birth canal, and by internal medication, until the termination of the case either in death or recovery. Under this method of treatment, undoubtedly, a few cases have recovered, but in the great majority, when in spite of curettement and thorough irrigation of the uterus, the septic process increases instead of diminishing in intensity, the issue is a fatal one. The proposition to perform hysterectomy in such cases, and thus to remove the seat of the disease, has the merit of being logical. This proposition has been carried into effect by Kelly and Smith with a favorable result, and by Montgomery with a fatal issue. I have read of another successful case in the hands of a German operator—but am unable to find the reference. In these cases abdominal hysterectomy was performed. In Kelly's case there was a beginning lymphangitis, in Smith's a beginning peritonitis, and in Montgomery's pus was found in the uterine sinuses.

At the present time I am prepared to advocate the performance of hysterectomy for infection of the uterus, when in spite of thorough curettement, followed by copious irrigation of the utero-vaginal canal, and the use of an iodoform suppository and gauze within the uterus, the septic symptoms increase in severity. In general, the less radical measures of treatment should be employed for twenty-four or forty-eight hours (and longer in cases of mild type, in which the symptoms are not urgent), this time limit to be varied according to the severity of the septic symptoms. In such cases not only should the uterus be curetted and douched, but the patient should be purged with salines; and the use of quinin, baths and anodynes, should not be neglected. In all such cases the general condition of the patient, including the pulse, temperature, stomach and *morâle*, is the best guide in deciding for or against immediate resort to hysterectomy. In other words, it is by no means proposed to do a hysterectomy because the patient has a septic endometritis or a septic metritis, but to do this major operation only in those cases in which the methods of treatment, at present recognized as most efficient, fail to arrest the morbid process, which, in spite of the employment of these measures, goes on from bad to worse.

It will be observed that my advocacy of hysterectomy has been in cases of infection of the uterus early in the course of the disease. There is another class of cases entirely distinct from this, clinically speaking, in which it may be wise to add a hysterectomy to the removal of the uterine appendages, either because the suppurative process may include the uterus itself, or because the removal of the uterus as a technical point in the operation may facilitate the recovery of the patient. A number of such operations have been reported, but this class of cases must not be confused with that which has just been considered. In the one class of cases, the septic inflammatory process is acute, and a hysterectomy if needed at all, will be needed somewhere about a week after labor; whereas, in the other class of cases, the process is subacute, and results in suppuration late in the puerperal month. In the one class of cases, the removal of the infected uterus is the principal object aimed at; in the other class of cases, as a rule, the uterus is the least diseased of the pelvic structures.

At this time the great success which has been achieved in hysterectomy done by way of the vagina, for non-puerperal conditions, in the hands of the French school of surgeons, raises the question as to whether or not this method of operating should be selected in puerperal cases. Experience alone must determine this question. This is one of the problems of the future, as only a small number of cases have as yet been operated on by the lower route. Upon theoretical grounds, I am not inclined to advocate hysterectomy by the vagina for puerperal infection, as when it is employed we are precluded from inspecting, irrigating and widely draining the peritoneal cavity. This method would best fulfill the indications when employed very early in the course of the disease, as then the chances of peritonitis would be small, and the necessity for extensive drainage of the peritoneal cavity would be absent. The advocates of the vaginal route for removing the diseased structures from the pelvis, will probably take issue with the general position, that abdominal section is the operation indicated to deal with the various consequences of puerperal septic infection. I am prepared to agree with them that large pus accumulations can be more safely dealt with by way of the vagina than by operation from above, but with this exception, from my point of view, the preferable method of operating for puerperal septic inflammation and its results is by celiotomy.

The present status of the subject of celiotomy for puerperal septicemia and for puerperal inflammatory conditions may be summed up as follows; the cases may be divided into two classes:

a. Those having morbid conditions in the pelvis antedating labor, such as tumors, pus tubes, or other septic accumulations, the bruising or rupture of which during labor leads to peritonitis or septicemia. Prompt operation in these cases has given good results.

b. Those having normal pelvic structures at the onset of labor. The infectious process may spread through the lymphatics to the peritoneum, and give rise to peritonitis, cellulitis and septicemia. It may

[6] Noble, Charles P., Acute Puerperal Cellulitis and True Pelvic Abscess, Amer. Jour. Obstet., 1893, XXVII, 427.

spread by way of the Fallopian tubes to the peritoneum, setting up peritonitis. Or it may be limited to the utero-vaginal canal. Celiotomy is not indicated in lymphatic peritonitis, as the morbid process is too widespread to be reached by operation. Celiotomy has been followed by a fatal result in cases of general puerperal peritonitis. The only ground for advising operation with such a diagnosis is the possibility that this may be erroneous. The prognosis is best when celiotomy is done for localized peritonitis, when the process has become well circumscribed and the element of sepsis eliminated; in other words, when the case has resolved itself into one of pyosalpinx, abscess of the ovary, or of pelvic abscess of puerperal origin. The prognosis is good when cases of localized peritonitis are operated upon promptly, that is within two or three days of the beginning of the attack, or at about the end of the first week of the puerperium. Cases which have gone from bad to worse, and in which the operation is done as a last resort, usually terminate fatally. Hysterectomy is indicated for those cases in which the infection is limited to the utero-vaginal canal, when, in spite of thorough curettement of the uterus, together with copious irrigation of the utero-vaginal canal, and the employment of proper systemic treatment, the infectious process increases in severity.

In dealing with the results of puerperal septicemia by operation, celiotomy affords the opportunity for satisfactory diagnosis and adequate treatment. The organs involved may be palpated or inspected, and when necessary the operation may be followed by irrigation and satisfactory drainage. The vaginal route for operation is indicated for large pus accumulations which are found late in the puerperium.

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EXTRA-UTERINE GESTATION—ITS EARLY DIAGNOSIS AND TREATMENT.

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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WHEELING, W. VA.

(ABSTRACT.)

The following were the author's conclusions:

1. Extra-uterine gestation is probably always primarily tubal; the ovarian is a possible rare exception.

2. Diagnosis before rupture may often be made with reasonable certainty. In some cases it is impossible.

3. Diagnosis after rupture can in most cases be made so certainly as to justify opening the abdomen.

4. Electricity—preferably galvanism—should be used when a diagnosis is made before rupture, unless the patient can and will secure the services of an expert operator.

5. Celiotomy by an experienced abdominal surgeon is always proper in early unruptured cases.

6. After intraperitoneal rupture with free hemorrhage, the abdomen should be promptly opened and the tube grasped near the uterus. The operation may be completed at once or delayed to restore the patient, as her condition requires.

7. After rupture into the broad ligament, abdominal section is not urgent, and often is unnecessary.

8. While condemning operations by the inexperienced in cases of no urgency, yet an emergency may arise after intraperitoneal rupture, when celiotomy by the inexperienced may become a duty, but this should never be resorted to without counsel.

DISCUSSION.

DR. A. H. GOELET, of New York—said that while Dr. Jepson had covered the subject pretty thoroughly, there were some points in the paper from which he wished to differ with the essayist, and first as to the necessity of operating upon every case of unruptured tubal gestation. In the first place, the necessity of the operation is the danger of rupture, and that danger is removed if the death of the fetus is accomplished. That can unquestionably be done by electricity. If rupture has taken place between the folds of the broad ligament, it is admitted by some of our best authorities that it is comparatively harmless and may be left alone. He has had several cases of this character, and they resulted very satisfactorily by leaving them undisturbed until the ruptured vessels had sealed up, and then, when necessary, emptying the sac through the vagina. In this way we avoid opening the peritoneal cavity. Statistics show that even when the hemorrhage occurs within the peritoneum it is seldom sufficiently severe to demand celiotomy for its arrest. No one would hesitate to open the abdomen in cases where the bleeding is very severe, but if it has ceased it is far safer to let it alone. When the danger of secondary hemorrhage has passed, we can open the sac through the vagina and empty it. This procedure is far safer to the patient, and it is our duty always to consider this point.

DR. RUFUS B. HALL, of Cincinnati—said it was very often difficult to decide whether rupture had occurred between the folds of the broad ligament or directly into the peritoneal cavity. In sixteen cases coming under his observation, a diagnosis of rupture into the broad ligament was made in fifteen cases, and they were treated as such for varying periods. Later on, in operating for the removal of the blood clot, it was proved in every case that the rupture had occurred into the peritoneal cavity. When we teach that rupture takes place into the folds of the broad ligament more frequently than it does into the peritoneal cavity, he thinks we do not treat our patients fairly. We should assume primarily in these cases that rupture has occurred into the peritoneal cavity and be governed by the condition of the patient, or the loss of blood, as to when we shall operate.

DR. Caleb R. REED, of Middleport, Ohio—said that these cases are not infrequently met with in small country towns, where the assistance of an experienced surgeon can not be readily obtained, and he expressed the opinion that in such an emergency, any physician who has an ordinary knowledge of the anatomy of the parts and who has the boldness to use the knife should not hesitate to operate. While he has had personally but little experience with the use of electricity in these cases, he would not advocate it unless he was reasonably sure that it would succeed in destroying the fetus, and according to his reading on the subject, electricity was in the majority of cases a failure.

DR. J. M. COBLE, of Dallas, Tex.—said he had had three cases of extra-uterine gestation come under his care. He regards the operation for extra-uterine pregnancy as a very simple one, and said a man who has any skill and knows how

to do it, should go ahead and perform it as soon as the diagnosis is made.

DR. A. LAPTHORN SMITH, of Montreal—is in favor of operating for extra-uterine pregnancy as soon as the diagnosis is made. He also regards it as one of the easiest of the abdominal operations.

DR. J. M. DUFF, of Pittsburg, had had no experience with electricity in cases of extra-uterine pregnancy, but it occurred to him that it would be just as dangerous for one who is not skilled to attempt to use it as it would be for an unskillful operator to use the knife. A case came under his observation some three years ago in which he diagnosed extra-uterine pregnancy; there was a tubal abortion at about the third month. He could not get the consent of the patient to let him operate. The woman had a miscarriage about a year later; he was sent for, found her in collapse, and discovered that she had an extra-uterine pregnancy on the other side. He operated and found the product of the first pregnancy, which was almost as natural as that of the last one, which he knew to be of only eight weeks duration. There was no absorption.

DR. H. W. LONGYEAR, of Detroit—said if a case of tubal pregnancy is diagnosed before rupture has taken place, the physician should operate at once, or he should get the most experienced surgeon to do so. He cited a case in which the pulse fluctuated more or less for two months. At the operation the abdomen was found full of blood clots, partly organized and mixed up with the intestines, and it was with the greatest difficulty that the blood was removed from the abdominal cavity, and he believes that the length of time necessary to do this was the cause of death.

DR. JEPSON, in closing, insists upon the operation being done by an expert when possible. He said his remarks were addressed to the average country practitioner who is not competent to operate in these cases. There was in his town to-day a man who was doing a large amount of operative work. Two years ago this physician was called to a neighboring town to operate upon a case of ruptured tubal gestation. He opened the abdomen, and before he could find the ruptured tube, the abdomen was full of blood. He was horrified. He filled up the abdominal cavity with towels and let his patient die. This man was a post-graduate student.

With reference to hysterectomy, the expert surgeon who stands up before a Section composed largely of general practitioners and asserts that it is a trifling operation creates a false impression, and it may be the means of leading other men to do operations that are grave, although to him they may be comparatively easy.

THE VALUE OF SYMPHYSIOTOMY.

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

BY HUGH HAMILTON, M.Sc., M.D.

HARRISBURG, PA.

Operative obstetrics is an essential part of a physician's education. The process of natural birth is merely an incident, but a birth may become eventful and ultimately tragic. Cases demand action in the order of their occurrence, namely: detention from want of maternal power; due to fetal malposition; arising from deformed fetus; by deformed maternal parts. Nature makes an effort to sacrifice upon these occasions the child for the mother, because her preservation is the conservation of the species—following this guide, accoucheurs strive to do this and more; therefore the highest aim of the art of midwifery is to save both, through the application of therapeutic remedies and other means. More Madden questions if we have an emmenagogue in the special sense in which we use it. Recently I had a letter from a Philadelphia physician, stating that brown sugar was an excellent uterine tonic! Upon this question at present it is not necessary to enter. When medical aid fails, recourse must be had to manual or instrumental skill or surgical relief, bearing in mind the simple classification, a birth is detained through lack of maternal power. The reflexes having been used to stimulate these powers and failed, turning may be resorted to, or the forceps, or both consecutively. Forceps do not always fit and will often slip; to overcome the difficulty, contrivances have been made to secure the necessary force in the proper axes of expulsive power. (Demonstrated clamp.)[1]

2. Malposition of the fetus may be regarded as all but the four vertex ones, *i. e.*, dexter et sinster; anterior et posterior. For although breach presentation gives less risk than others, for all that, the after-coming head is not always a problem of easy solution. Presentations may be modified by manual dexterity and expediency; even then they do not result in living infants.

3. Should the deformity of the fetus prevent birth, then instrumental function asserts itself; if possible, only upon the lifeless infant, but not reprehensible upon the living one, under certain restricted conditions. (Demonstrated my great forceps.)

4. When dystocia comes from deformed maternal parts, then modern surgical technique renders pronounced aid. These are divided by the anterior-posterior diameter of the pelvis. Then means for accurate measurement becomes of great moment. The most recent and complete pelvimeter is that of my friend Dr. Philander A. Harris, of Paterson, N. J. (Demonstrated.)

A. Pelves of a conjugate vera of less than 7 c.m.

B. Pelves of a conjugate vera of more than 7 c.m. modified by symmetrical contraction. In class A section is the only method advisable. In class B, symphysiotomy, etc., are the proper operations. (Demonstrated by charts and my new symphysiotomy knife.)[2]

Recent statistics[3] covering the year 1891 before symphysiotomy, and during the subsequent years in that period, at the Clinic Baudelocque in Paris: there was, in 1892, 13, in 1893, 14; in 1894, 22 symphysiotomies; total, 49. The maternal mortality was four from those undergoing the operation. The infantile mortality attributable to those whose mothers underwent the operation was five. To go into more details in these years, Pinard reported at the Baudelocque in 1891, a total of 1,654 cases treated, of which number there were 140 deformed pelves, being 8.456 per cent. on 1,654; of this number natural delivery took place in 18, or 4.89 per cent. upon 1,654, or 57.85 per cent. on 140, the whole number of those with deformed pelves. The remaining fifty-nine were delivered by artificial means (including premature artificial births, high and low forceps operation, version, Basiotripsy and conservative Cæsarean operation.) Or 3.55 per cent. on 1,654; or 42.15 per cent. on 140. The maternal mortality was 4, or 0.241 per cent. on 1,654; or 2.85 per cent. on 140; or 6.77 per cent. upon 59, the whole number operated on. The infant mortality was 31, or 1.87 per cent. on 1,654; or 22.14 per cent. on 140; or 52.52 per cent on 59.

At the Royal Dresden Clinic[4] during the period from Jan. 1, 1892 to July 1, 1893, eighteen months, there were 2,512 cases of confinement. Of this number 610 or 24 per cent. had deformity of the pelvis; however, there were 146 of these whose deformity was so slight as not to demand any anxiety whatever, so that the number is reduced to 464 or 19.40 per cent.

[1] Ann. Gynecol. and Pediat., Vol. viii, p. 103.
[2] Amer. Gynec. and Obstet. Jour., Vol. v, p. 624.
[3] Ann. Gynecol. et D'Obstet.—Tome xliii, 1895.
[4] Arb. a. d. Kgl. Frauenkl., Bd. I and II, 1893-95.

upon 2,512; 424 of this number were fortunate in having unassisted births, or 16.87 per cent on 2,512; or 88.98 per cent. on 464; the revised number of deformed pelves. Those requiring assistance (in procedures as follows: forceps, version, Basiotripsys, premature births, Cæsarean sections, symphysiotomy) were 89 or 3.54 per cent. upon 2,512; or 11.01 per cent. upon 464. Those who were subjected to operations other than symphysiotomy were 83 or 93.85 per cent. on 89 of those totally operated on, or 3.30 per cent. on 2,512; or 9.72 per cent. on 464. Consequently there were six symphysiotomies performed, giving rise to the following comparative proportions: 0.23 per cent, on 2,512; or 1.29 per cent. on 464; or 6.7 per cent. on 89.

In the published account there was a mortality of mothers, due to operative interference, of 4, being 0.159 per cent. upon 2,512; or 0.864 per cent. upon 464; or 4.49 per cent. on 89. It is but fair to state that out of this number there were 5 deaths in 194 primapara which were expected to give birth naturally although their pelves were deformed. They really do not belong to operative statistics; yet they should have been operated on by symphysiotomy and the lives saved. This would make the percentage more than double. It is difficult to make tabular statements to represent at a glance all we wish, although the Paris figures include *all* deaths and the comparison is more favorable than it seems to the Clinic Baudelocque. The infantile mortality was 43 of which there is 1.70 per cent. on 2,512 cases; 9.48 per cent upon 464 deformed pelves; and 48.30 per cent. upon all operations, 89. The same parenthesis can be made in this respect as upon the mothers' mortality, in there being an additional loss of infants of 9, making in all when added to 43, 52. This would increase the percentage to beyond 10 upon 464.

The maternal mortality in operations other than symphysiotomy was 3 which gives 0.119 per cent. upon 2,512; or 0.646 per cent. upon 464; or 3.37 per cent. upon 89 operated cases; or 3.53 per cent. upon 83 operations *not* symphysiotomy. The mothers' deaths in symphysiotomy were only 1 *i.e.*, 0.037 per cent. upon 2,212; or 0.21 per cent. upon 464; or 1.23 per cent. upon 89; or 16.66 per cent. upon the operation (symphysiotomy) 6 itself. No deaths of infants were due to symphysiotomy.

The Clinic Baudelocque in 1894 gives the most recent report and presents the following: the whole number of confinements were 2,147; of this number 94 were deformed in the pelvis; the measures were taken by the pelvimeter, being 4.37 per cent. on 2,147; even of this number 64 gave unassisted birth, being 2.98 per cent. of 2,147 cases; or 67.97 per cent. upon 94, the number of deformed pelves; allowing 30 to be artificially assisted (these consisted in Basiotripsys 6, Porro operations 1, symphysiotomies 22, Vectis 1) being 1.39 per cent. upon 2,147; or 32.03 per cent. on all cases operated on. Those cases in which symphysiotomy was not used being 8 or 0.37 per cent. upon 2,147; or 8.51 per cent upon 94, all deformed pelves; or 26.66 per cent. upon 30, all the cases operated on. There was performed 22 symphysiotomies, being 1.22 per cent. of all cases, upon 2,147; or 23.41 per cent. upon all deformed cases, 94; or 73.33 per cent. upon all operations, 30. The total operative maternal mortality was 3, which upon 2,147 is 0.139 per cent.; 3.20 per cent upon 94; or 9.99 per cent. upon 30. The total infant mortality was 8, being 0.37 per cent. upon 2,147; 8.51 per cent. upon 94; or 26.66 per cent. upon 30. The maternal mortality with operations other than symphysiotomy was 2, being 0.0925 per cent. of all cases, 2,147; or 2.13 per cent. of deformed pelves, 94; or 6.66 per cent. of 30, the operated cases, or 25 per cent. of the operations other than symphysiotomy, 8. The maternal mortality under symphysiotomy was 1, being 0.046 per cent. upon 2,147; or 1.07 per cent. upon 94; or 3.33 per cent. upon 30; or 4.55 per cent. upon 22, the operation (symphysiotomy) itself. The infant mortality was *nil*.

	Division of Cases on which percentage is based.	Total Confinements.	Deformed Pelves.	Natural Delivery in Deformed Pelves.	Artificial Delivery in Deformed Pelves.	Operations other than Symphysiotomy.
Paris, 1891		1654	140	81	59	59
Clinic Baudelocque			8.456	4.89	3.55	3.55
All cases	1654			57.85	42.15	42.15
Deformed pelves	140					
Operated cases	59					
Symphysiotomy	None					
Dresden (Jan. 1, 1892 to July 1, 1893.)		2512	(610) 464	424	(186) 89	83
Royal Maternity			(24) 19.41	16.87	3.54	3.31
All cases	2512			88.98	11.01	9.72
Deformed pelves	464					93.85
Operated cases	89					
Op. other than "S."	83					
Symphysiotomy	6					
Paris, 1894.						
Clinic Baudelocque		2147	94	64	30	8
All cases	2147		4.37	2.98	1.39	0.37
Deformed pelves	94			67.97	32.03	8.51
Operated cases	30					26.66
Op. other than "S."	8					
Symphysiotomy	22					

	Symphysiotomy.	Total Operative Mortality. Mothers.	Total Operative Mortality. Infants.	Maternal Mortality. Other Operations.	Maternal Mortality. Symphysiotomy.	Infant Mortality was only in other operations.
Paris, 1891.		4	31	4		31
Clinic Baudelocque		0.241	1.87	0.241		1.87
All cases		2.85	22.14	2.85		22.14
Deformed pelves		6.77	52.52	6.77		52.52
Operated cases						
Symphysiotomy						
Dresden (Jan. 1, 1892 to July 1, 1893.						
Royal Maternity	6	4	43	3	1	43
All cases	0.23	0.159	1.71	0.119	0.037	1.71
Deformed pelves	1.29	0.864	9.48	0.646	0.21	9.48
Operated cases	6.7	4.49	48.31	3.37	1.23	48.31
Op. other than "S."				3.53		
Symphysiotomy					16.66	
Paris, 1894.						
Clinic Baudelocque	22	3	8	2	1	8
All cases	1.02	0.139	0.37	0.0925	0.0462	0.37
Deformed pelves	23.41	3.20	8.51	2.13	1.07	8.51
Operated cases	73.33	9.99	26.66	6.66	3.33	26.66
Op. other than "S."				25.00		
Symphysiotomy					4.55	

[A comparison with American statistics may be made from the admirable paper by R. P. Harris, in American Gynecol. and Obstet. Jour., Vol. iv, p. 788].

The results are that symphysiotomy relieves the peritoneum from being disturbed; does not divide the uterus; becomes as easy of reparation as any section or re-section of the long bones; permits the passage of a head, frequently without forceps; beside making a perineal rupture less probable; the time required for union of the symphyses allows the uterus time to become completely involuted. Its disadvantages are non-union at the symphyses, which affects locomo-

tion; at any rate it offers much in attracting attention to accurate pelvimetry which will exercise caution in prognosis, and facilitate the progress toward scientific obstetrics.

1. Creating no necessity for premature artificial confinement.

2. Giving up all application of forceps and of all operations implicating the force of the head against the bony resistance of the pelvis (when it is developed or remains in the superior strait, in the excavation or in the inferior strait).

3. The absolute abrogation of embryotomy upon the living baby.

4. The enlargement of the size of the pelvis (by symphysiotomy, pubiotomy, ischio-pubiotomy, coccyotomy) in all the cases where the osseous resistance is not overcome by the uterine contractions, the position of the head being well determined, and together with its size, where the calculation demonstrates that when section of the pelvis is made, its enlargement will not be under 7 c.m., allowing the passage of head of the fetus at term.

5. Where absolute contraction of the pelvis is present (under 7 c.m.) the section serves for the Porro operation.

SUSPENSIO UTERI—THE PROPER METHOD OF PERFORMING IT, AND ITS RESULTS.

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY HOWARD A. KELLY, M.D.

BALTIMORE, MD.

(ABSTRACT.)

Dr. Kelly refused to accept the name of ventrofixation or hysteropexy. The uterus is not fixed. He prefers the name of suspensio-uteri as more accurately describing the condition. In the past five years he has performed this operation one hundred and seventy times and thirty-seven times in the past year. The indications for the operation are extreme local discomfort associated with uterine displacements, and neurasthenia, with backache and headache. In the first class of cases, with local symptoms but no general symptoms, the operation is plain. In the last series of cases it is difficult to say just when the operation is indicated. The most brilliant cures, however, have been in this class of cases. He is willing to take the chances and fail in four cases in order to get one good cure. Of the 132 cases reported, 90 were married; and of the 78 per cent. had borne children, and 14 of them had had miscarriages. Not one died or showed bad symptoms. Transient mania has occurred in three cases, pneumonia in one case, and stitch-abscess in three cases. Cystitis and frequent urination had occurred in four cases only, and had been but transient.

The operation is simple. The pelvis should be slightly elevated, and a small incision made just above the symphysis pubis about one and a half or two inches in length. The peritoneum is incised and drawn out with forceps. Two fingers are inserted to the fundus, and the uterus hooked up. Adhesions are stripped off with the fingers or cut with scissors or knife, and the uterus anteflexed. The abdominal wall is lifted on the left side until the peritoneum can be seen for one inch away from the line of the incision. A needle is then carried through the peritoneum, but not entering the muscular tissue, and then through the posterior uterine wall just below the fundus, taking in about one-fourth of an inch in length, and extending about one-eighth of an inch in depth. The suture is then carried to the opposite side of the abdominal wall. Another stitch is passed just above the first, near the incision, and inserted into the uterus below the other, and then carried back to the opposite side of the abdominal wall. This increases the anteflexion. A third suture may be inserted. The peritoneum is then closed by a continuous suture; then the fascia is closed and then the skin incision. The distance between the uterus and anterior abdominal wall is about one or one and one-half inches. The organ is attached by a strong fibrous cord which contains the sutures close to the abdominal wall. Pregnancy is not seriously interfered with. In only one case, and that after two years, did the uterus drop back.

THE TREATMENT OF HEMORRHAGIC CONDITIONS OF THE UTERUS BY ZINC-AMALGAM ELECTROLYSIS.

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY G. BETTON MASSEY, M.D.

PHILADELPHIA.

The use of a soluble metallic electrode as the positive pole of a galvanic current is specially avoided in the usual applications to the uterine and other mucous cavities whenever the pure action of the electricity alone is desired. To avoid this disintegration of the electrode and the consequent local action of the nascent metallic salt produced by its erosion, it has been necessary to employ non-oxidizable electrodes with this pole; platinum and carbon being the only practicable materials. It has however, been more recently discovered that the nascent salts produced by the corrodible electrodes have a distinct value in certain cases, particularly those in which a local alterative and antiseptic action is desirable. The salts produced by this erosion of a base metal anode are oxychlorids, produced by union of the free oxygen, and chlorin developed by the electrical action, and being in a nascent condition are particularly active. Copper, zinc and iron have been the substances employed by Onimus, Gautier (who has especially studied the method), Morton, Goelet, Cleaves and others, under the designation of interstitial electrolysis, metallic electrolysis and cupric electrolysis.

My own work has been almost entirely with zinc, and was originally directed exclusively toward the treatment of incipient malignant conditions, in which the nascent zinc salt has been a most valuable adjuvant to the lethal action of a concentrated current. Owing to the practical difficulty that at times resulted from the adhesion of the electrode to the surface after a prolonged application, and also on account of the roughened surface rapidly attained by the electrode, I was led to amalgamate the zinc freely with mercury before using, and am convinced that the expedient is a valuable one. Not only does this keep the zinc surface always smooth, lubricated and non-adhesive, but a new value is attained in the use of a nascent oxychlorid of mercury in addition to the oxychlorid of zinc and a far more efficient alterative and antiseptic action results.

The additional effect given by this process to the galvanic treatment of hemorrhagic endometritis is shown in the following case histories:

Case 1.—Mrs. J. F., aged 54, was referred to me by Dr. H. W. Elmer, of Bridgeton, N. J., April 17, 1894. For three or four years she had been suffering from an almost continuous hemorrhage, resulting in great prostration. Shortly after the beginning of the hemorrhages, a tumor of the uterus was discovered, which was the size of a large fist when I first saw her. She was placed under the Apostoli treatment, which produced considerable improvement in the hemorrhages but did not even after six months' occasional treatment entirely correct the hemorrhagic tendency. Fearing that the case was a malignant one in spite of the absence of marked pain, I decided to substitute an amalgamated zinc electrode for the carbon one previously employed. It was found that the applications with this electrode were better borne, enabling them to be used more frequently. Six applications were made in a period of two weeks in December last, completely checking the dribbling, and since then there has been no real hemorrhage and the patient has been restored to health. The tumor was materially reduced in size.

Case 2.—Miss C. F. H., aged 31, had been under treatment for some time for a uterine fibroid of large dimensions, accompanied by profuse and exhausting menorrhagia. Under the ordinary Apostoli treatment the tumor had been reduced somewhat and the menorrhagia lessened, but she still had periods that were too profuse for her impaired strength. In January and February of the present year the electrode for intra-uterine treatment was changed from carbon to amalgamated zinc, the same current strength, 150 milliampères, being employed. All periods subsequent to these applications have been absolutely normal.

Case 3.—Mrs. F., aged 47, had also been under treatment for a hemorrhagic fibroid of smaller size, with a similar history of decrease and partial control of the hemorrhagic feature. The metal of the intra-uterine anode was changed from platinum to amalgamated zinc about the same time, a current strength of 60 being employed. Up to this time her periods had always anticipated by several days, notwithstanding her age, but the first period after the changed treatment was postponed a week, and they have been delayed and normal in amount since.

1636 Walnut Street.

AËRO-URETHROSCOPY.

Read in the Section on Surgery and Anatomy at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7–10, 1895.

BY WILLIAM K. OTIS, M.D.

ATTENDING SURGEON TO THE CITY HOSPITAL, NEW YORK; TO ST. MARK'S HOSPITAL, NEW YORK, ETC., ETC.

NEW YORK.

Notwithstanding the very great improvements made in urethroscopic instruments during the past few years, the urethroscopic field, in point of size, is still far from being entirely satisfactory. Since the invention of the original illuminating apparatus, little if any change has been made in urethroscopic tubes, though they have borne various names and been constructed of many different materials.

Glass from its transparency seemed especially adapted to this purpose, but the reflections from its surface and the changes produced by pressure on the mucous membrane, together with the danger of fracture if used in the deeper urethra, render it practically valueless. The discovery in 1870 of the great underestimation of the normal urethral caliber permitted the use of much larger tubes, with a corresponding increase in the size of the field; but the practical urethroscopic tube remained and still remains a simple straight tube.

In the year 1887 the late Geza von Antal, of Buda-Pesth, in the endeavor to extend the urethroscopic field, evolved the ingenious idea of distending the urethra with atmospheric air. He invented an instrument for this purpose which was eminently successful, consisting of a tube with a well-fitting obturator, 6 cm. long, with a concave metal shield at its proximal end which fitted over the glans penis, the urethral orifice being drawn upward against this so as to prevent the escape of air. After the introduction of the tube an ocular portion, rendered air-tight by a glass plate, was attached by a sliding joint. By means of a small tube entering the ocular portion at right angles, the urethra was inflated with a rubber bulb and an inspection of its mucous membrane obtained by a beam of light reflected from a head mirror[1].

This instrument, however, failed to attract much attention and the method met with but little favor among urethroscopists in general.

The examination of the inflated urethra was taken up, independently of von Antal's work, in this direction, by Heule of New York (1890) who devised a simpler but equally effective instrument for accomplishing the same results.

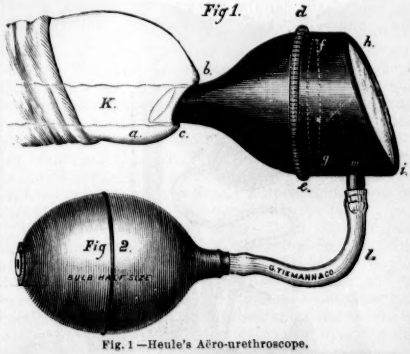

Fig. 1.—Heule's Aëro-urethroscope.

Heule's instrument consists of two parts, viz., "the speculum, *a*, *b*, *d*, *e*, and the cover, *f*, *g*, *h*, *i*. The speculum is made of rubber, glass or metal, shaped like a truncated cone, with the end *a*, *b*, cut obliquely to facilitate its introduction into the urethra without the aid of a stylet. At the other or proximal end is a flange, *d*, *e*, which is useful in separating the cover from the speculum. Into this proximal end is closely fitted the removable cover, *f*, *g*, *h*, *i*, having at *h*, *i*, a transparent glass crystal, fitted air-tight, and at *m* an attachment for a rubber tube with bulb (Fig. 2) for forcing atmospheric air into the endoscope.

"To prevent the glare of reflected light, the glass crystal at *h*, *i*, is placed at an obtuse angle to the line of vision, and the inside of the instrument is blackened. The specula at *a*, *b*, *c*, are made of various sizes to fit small and large openings, but at the proximal end, *d*, *e*, are all adapted to one cover, *f*, *g*, *h*, *i*.

"In using this instrument the flaccid penis is grasped between the ring and middle fingers of the left hand, the lips of the meatus being opened with the index finger and thumb of the same hand. The endoscope held in the right hand by the flange, *d*, *e*, can now be readily introduced into the urethra by means of the oblique end, *a*, *b*, *c*, until the thicker portion of the speculum, near *d*, *e*, fills the opening. Air is now

[1] Viereljersch. f. Derm. u. Syph.

forced in by the rubber bulb in the hands of the surgeon or patient until the requisite distension of the urethral canal is obtained. In case there should be too much distension, the air may be allowed to escape from the meatus at the side of the speculum by slightly withdrawing it."

Two years later, (1892) E. Hurry Fenwick, of London, having followed the work of von Antal and Heule, induced Leiter to add an aëro-urethroscopic attachment to his electro-urethroscopic illuminator and was thus the first to combine the source of illumination with the air apparatus in a single instrument.

This instrument consists, as I have said, of the well-known Leiter illuminator arranged with an inflation apparatus. The nose piece is closed with an obliquely set glass diaphragm, so that air forced into the canula by means of an India rubber ball can not but distend the penile urethra up to the commencement of the deep urethra (the compressor urethræ muscle). The cup at the proximal end of the canula receives the convex glans penis, and effectually prevents the indriven air

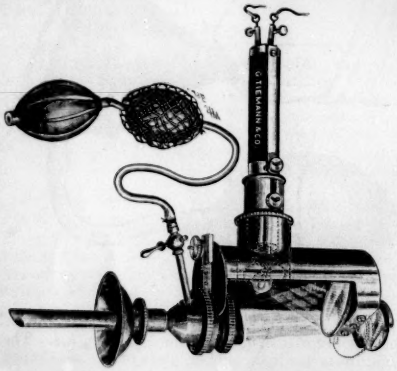

Fig. 2.—E. Hurry Fenwick's Aëro-Urethroscope.

escaping from the urethra, unless a great pressure is exerted. The diaphragm, fastened in a collar, is held in place by means of a sliding joint with a bayonet catch, so that when a granular patch, ulcer, or tumor is discovered by means of inflation, the end of the canula is held firmly in position, the diaphragm is removed, and the operation proceeds through the open tube under the direct control of the electric light.

While this instrument is sufficiently effective to accomplish very excellent results, at the same time it presents several marked disadvantages, so that it can by no means be considered as the ideal instrument for this purpose. It is heavy and cumbersome, the distance between the glass surface of the diaphragm and the meatus is over two inches and a quarter (a decided consideration when we remember that the intensity of the illumination diminishes as the *square* of the distance). In making an application the diaphragm must be removed and laid aside, then found and replaced, making an annoying break in the rhythm of the operation, while it is not always easy to immediately connect the bayonet catch. The illumination from a concave mirror (reflected light) is inferior to that obtained by means of a plano-convex lens.

Fully recognizing the advantages which at times must be derived from an examination of the inflated urethra, I have designed an aëro-urethroscopic attachment to my "perfected" urethroscope which obviates the objections pertaining to previous instruments of this character.

This consists of a hard rubber disc, one and three-fourth inches in diameter and one-sixteenth of an inch in thickness, backed with metal. In the center of this disc is a circular aperture, one-half inch in diameter, to the inferior edge of which is soldered a metal rim one-fourth inch in depth, forming the male half of a sliding joint by which the different sizes of urethral tubes are attached to the instrument. On the superior surface of the disc, a glass diaphragm, held in a metal collar and placed at an oblique angle to prevent the reflection of light, is arranged on a pivot so as to swing over the aperture, hermetically closing it; or, when desired, instrumental applications through the tube beneath may be made *by simply swinging it in the opposite direction*. A slight projection on the side of the cap, locks under the outer end of the metal shoulder, by means of which my illuminator is fastened to the plate in exactly the same manner as it is to the Klotz tube. A small metal tube extends from the edge of the plate into the

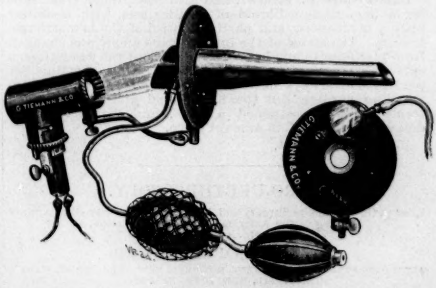

Fig. 3.—W. K. Otis's Aëro-urethroscope.

movable cap. To the outer end of this tube is fastened a piece of rubber tubing with double India rubber bulbs, like those used in the Paquelin cautery, by means of which the urethra is inflated. Urethral tubes of any length or caliber may be used with this instrument. To prevent the escape of air from the urethra the proximal ends of the ureteral tubes are made conical so that they may be firmly wedged into the meatus urinarius, though if the metal cap covering the glans penis is preferred, tubes of that pattern may be adopted. The advantages of this instrument over others designed for a similar purpose are:

1. Ready access to the urethral field for the purpose of making local applications under the direct control of the light.

2. Minimum distance between the eye and the urethral mucous membrane, hence a better and clearer view of the field.

3. Extreme lightness.

4. Simplicity of construction and moderate cost.

Aëro-urethroscopy is undoubtedly a valuable addition to our means of obtaining a visual inspection of the urethral mucous membrane and will, in many

cases, render a diagnosis possible which would otherwise be obscure, nevertheless the field of vision, even in this method, is limited and by no means as perfect as some observers would lead us to believe. The manipulation of the inflating apparatus slightly complicates the technique of the examination, and the occasional escape of air into the bladder is unpleasant to the patient and annoying to the surgeon. The clouding of the glass diaphragm by the exhalations from the moist, warm mucous membrane sometimes renders the view hazy and unsatisfactory. The pressure exerted by the air also adds an element of uncertainty in correctly diagnosing the exact condition of the mucous membrane, while the view of the walls of the urethra is indirect; as when looking down a gun-barrel, flaws may escape notice which would be readily observed if we were looking directly at the surface of the metal, so lesions of the mucous membrane may escape detection by this method of examination. We are, however, able to obtain a direct view at any point by removing the diaphragm and allowing the air to escape. When ths diaphragm is not in place this instrument practically becomes a simple urethroscope and the same view is obtained of the urethral mucous membrane as through the ordinary tubes.

The difficulty in obtaining a thorough appreciation of the morbid conditions present in the many obscure cases which present, when the urethra is implicated, renders any additional assistance to our present methods extremely desirable, so that despite these drawbacks the aëro-urethroscope furnishes us with a new means for investigation and an aid to diagnosis which no urethroscopist of the present day, no matter how skillful, can afford to ignore. Aëro-urethroscopy does not supplant the older method of visual urethral examination, but rather is a powerful ally, by whose aid we are enabled to increase our appreciation of the conditions existing in the urethra by obtaining more extensive pictures from different points of view, The advantages of ocular examination of the inflated urethra have already been demonstrated, and the simplicity and facility of manipulation of this instrument, it is hoped, will add to the growing popularity which the method already enjoys among those who have given it a practical test.

5 W. 50th Street.

VAGINAL FIXATION IN RETRODEVIATIONS OF THE UTERUS, WITH SOME REMARKS ON VAGINAL CELIOTOMY.

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY X. O. WERDER, M.D.

PITTSBURG, PA.

The newest addition to our operative treatment of the backward displacements of the uterus is vaginal fixation. It is the result of a gradual evolution of Schücking's method, and its modifications by Zweifel and Sänger, and has been developed to its present form by Dührssen and Mackenrodt, each of whom claim priority, and is known by their respective names, their methods varying very little from each other.

The technique of Dührssen's operation, which is the simpler of the two is as follows: the cervix, having been seized by a volsellum forceps, is drawn down toward the vulva; a transverse incision is made through the anterior vaginal wall close to its attachment to the cervix, care being taken to avoid the bladder. The latter is then dissected away from the uterus just the same as in vaginal hysterectomy. It is important to push the vesico-uterine fold as far up toward the fundus, by the finger, as we can, in order to expose as much of the body of the uterus as possible. If thereby the peritoneum should be opened accidentally, no attention is paid to it; the important point upon which the success of the operation depends being to be able to secure the uterus by the fixation sutures at or near its fundus. A stout silk ligature is now passed through the anterior uterine wall at its highest visible point; traction on this enables us to catch the uterus a little higher up by a second provisional suture. If drawing on this does not bring the fundus into the vaginal wound, a third similar suture usually accomplishes this. It is now fixed by silkworm gut sutures to the edges of the vaginal wound; two such sutures being generally employed. The provisional sutures having been removed, the rest of the vaginal wound, which is usually converted into a longitudinal one, especially when there is a shortening of the anterior vaginal wall, is now closed by a continuous catgut suture. The patient is returned to bed and kept there about ten days. The fixation silkworm gut sutures are removed about six weeks after the operation. In my last eight cases I have employed buried silkworm gut sutures and have found no harm resulting from them thus far. After the operation the uterus is found firmly fixed to the anterior vaginal wall and is, I believe, in about as nearly a normal position as any fixation operation can possibly bring it.

Mackenrodt's operation differs from the one just described only in the method of vaginal incision. Instead of separating the anterior wall of the cervix from the vagina by a transverse incision at the cervico-vaginal junction, he makes a longitudinal incision extending from the center of the cervix to within an inch of the meatus urinarius, dividing the anterior vaginal wall into two equal flaps which are dissected off the bladder; the dissection is carried up along the anterior wall of the uterus until the entire bladder is separated from it. The fixation is done in the same manner as in Dührssen's operation.

Failures in both of these operations have been due to the fact that the fixation sutures were inserted too low down in the body of the uterus. In order to guard against a return of the malposition the fundus must be sutured to the vagina. In the only case, my first one, in which I followed this method, and which was at least a partial failure, the uterus returning into the position of slight retroversion shortly after removing the sutures, I no doubt made the mistake of fixing the uterus below the fundus. It is rather difficult to strip the vesico-uterine fold up to the fundus without tearing through the peritoneum. This probably induced Dührssen to open the peritoneum as soon as the bladder has been separated from the uterus in all of his more recent cases, as it allows the operator to see the exact point where he wishes to insert his sutures, which is at the fundus, between the cornua—the fundus is reached and drawn down in this *intraperitoneal* method in the same manner as described above; that is, by climbing up along the anterior wall of the uterus with provisional sutures This is preferable to seizing the body of the uterus by

means of tenacula or volsellum forceps, which tear out very easily.

In the thirteen cases in which I have performed vaginal fixation, in twelve I have operated by the intraperitoneal method and regard it as much preferable to, and more satisfactory than, the older ones. Thus far I have not seen a single failure in these twelve cases, though they are all too recent to justify an opinion as to the permanency of the results, they all having been operated upon within the last seven months.

In all cases the operation of vaginal fixation should be preceded by a thorough curettage, not only because an endometritis is present in nearly all the cases requiring an operation, but because it is advisable to have an aseptic uterine cavity, should any of the sutures pass through the endometrium. If an operation about the cervix is required, it should be performed before fixation is undertaken. In most of my cases, in addition to a curettage, trachelorrhaphy or excision of cervical erosions, or an amputation of the cervix was done previous to fixation and followed by an Emmet's perineum operation, all at one sitting. An anterior colporrhaphy can easily be combined with this operation, especially when Mackenrodt's method is employed; the only additional step being required is an incision of a crescent-shaped piece from each vaginal flap before bringing them together by the continuous catgut suture.

Pregnancy has occurred only in one of my cases, the first one, who went to term and was delivered without any difficulty. Dührssen says in regard to this point:[1] "Pregnancy continues to term without any disturbance and no harm has resulted during labor which can properly be attributed to the preceding operation. By observing a few precautions, the uterus will remain in the position secured by the operation after pregnancy and labor."

The intraperitoneal method of vaginal fixation termed "vaginal celiotomy," by Dührssen, has, beside permitting of a more satisfactory fixation of the uterus, the great advantage that it allows the fundus to be drawn down to the vulva and outside of it, and with it the adnexa, which can then be carefully examined both by touch and visual inspection, as I have repeatedly been able to demonstrate in my cases. When necessary, diseased ovaries and tubes can, as a rule, be removed with ease in this manner. Adhesions about the uterus and appendages can be separated with little more trouble than by abdominal section. Small fibroid tumors have been enucleated from the body of the uterus during this operation[2,3], and A. Martin[4] has divided the anterior wall of the uterus by a median incision up to the fundus and after removing small growths from the uterine cavity, closed the uterine incisions and re-attached the bladder to the uterus. From this we can see what a large field is hereby opened to the conservative pelvic surgeon.

In two of my cases the retroflexed uterus was adherent with its appendages and the adhesions were broken up during the operation. In one of my cases an ovary and tube was removed. In two others, cystic ovaries were punctured, once with the thermocautery. In all cases the convalescence was that following an ordinary curettage, excepting one in which some complications delayed the recovery, and the patients were usually up on the tenth day.

The only precaution necessary in the cases in which we wish to bring the uterus and adnexa out of the vaginal incision before the vulva, is to provide a free vaginal incision and to make the opening through the peritoneal fold connecting uterus and bladder, just as large as that through the vaginal wall. A neglect of this precaution may lead to serious difficulties in returning the uterus, with its appendages, as I experienced in one case. Since then I have been in the habit, when I wish to examine the adnexa, or to separate adhesions, to connect the transverse vaginal incision with a longitudinal one; in other words to combine Dührssen's and Mackenrodt's incisions, which gives ample room for any operations indicated.

From what has been said we can place the indications for vaginal celiotomy or the intraperitoneal methods of vaginal fixation on the same level with ventrofixation. Its advantages over the latter operation, however, are:

1. The avoidance of an external incision, which is always regarded with more or less fear by the patient, and which is liable to be followed by stitch and mural abcesses, fistulæ and hernia, accidents not common, but always within the range of possibility.

2. Less danger from septic infection, as there is no manipulation of intestines, which hardly ever come into view during the vaginal operation, and less exposure of the peritoneum.

3. The shorter and smoother convalescence with absence of the distressing symptoms usually following laparotomies, such as intense thirst and flatulence.

To this I may add another advantage, which is, that patients with retrodisplacements, who require operation for some other lesion about the cervix or vaginal outlet, will readily consent to an operation correcting the malposition of the uterus, provided this can be done by some vaginal operation without increasing the risk or time of convalescence; while the operator frequently hesitates to urge, and the patient is loth to consent to an operation requiring some external incision. Many patients, however, as I have learned from experience, are very much disappointed after recovering from some plastic operation, when they learn that they still have a displacement of the uterus for which they may require the use of a pessary. In most cases in which a displacement complicated other lesions requiring plastic operations, I have advised vaginal fixation and this explains in a measure, the comparatively large number of cases operated upon within a short period of time.

The only contra-indication to the operation is a very narrow vagina, though my list includes two unmarried patients, in whom, however, the operation proved rather difficult. It may be said in favor of ventrofixation, that it is easier than vaginal fixation, which is, no doubt, true; but the gynecologist who has been trained in plastic work and has had experience in vaginal hysterectomies will find no difficulty in its technique.

[1] Ueber die Operative Heilung der Mobilen und Fixirten Retroflexio Uteri auf Vaginalem Wege, Archiv für Gynaek. 37 Bd., 1894, page 447.
[2] Dührssen, op. cit.
[3] Vineburg, New York Medical Record, March 2, 1895.
[4] Centralbl. für Gynaek., 1895.

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A REMARKABLE CASE OF VISCERAL ANOMALY AND INVERSION.

BY G. E. CRAWFORD, M.D., PH.D.
CEDAR RAPIDS, IOWA.

A very remarkable and interesting case of congenital deformity and anomaly of the heart and other viscera came to my notice a few days ago at the autopsy of a young girl of 16, who had suddenly died of heart disease after a brief incidental illness of a couple of days.

I had had the child under observation for about five years. Her people are ignorant Bohemians and I was not able to get much history of the case previous to that time. Though a delicate child she had not been sick much; had measles when 3 years old. They had no knowledge of her heart trouble, and did not know that there was anything the matter with her until her chest became much deformed, and this they did not notice until she was 10 years old and then attributed it to a fall, but there was no evidence that she had had any fall.

I mention these trivial matters in the absence of a better history, merely to show how mild the symptoms must have been not to have attracted any attention until she was 10 years old.

When I first saw her, about five years ago, she was suffering from some febrile disturbance, probably having no causative relation to the heart trouble. The heart at that time was much enlarged and beating tumultuously, with a loud mitral murmur. Dyspnea and cyanosis were marked; I expected her to die, and told her parents that she was liable to die at any moment. But the fever passed off and she soon recovered and was as well as usual again. A year ago she had a similar attack, which was followed for a time with pain in the chest, dyspnea and very bad heart action. I prescribed two or three times for this, and then saw nothing more of her until the day she died. Her father told me since that for some time past whenever she stooped over she would spit up some blood. On the evening of June 17, they sent to me for something to stop vomiting; the girl wrote the note herself. I prescribed for that symptom. Two days after I was called to see her and found her with quite a high fever and in a restless, excited state bordering on delirium; the heart beating violently, the pulsation seen and felt on the right side. The impulse was so strong that the concussion of the chest could be seen across the room. I called again at noon, found her extremely cyanotic, pulseless at the wrist, though the heart was still beating violently. She soon afterward died.

I made a post-mortem at 5 o'clock in the presence of several of my medical associates. The form was tall and slender—rather above the average height of a girl of 16, with a marked deformity of the thorax, which was narrow and protruding in the front—a marked condition of pigeon-breast; also protruding posteriorly in a posterior curvature of the spine—a veritable visceral hump or dome. The heart, immensely enlarged, was found to fill the entire left side of the thorax; it was turned half over to the right, with the left ventricle to the front, extending diagonally across the chest downward and to the right, bringing the apex well over in the right side. The pericardium was greatly thickened and abnormally adherent, both to the heart and the diaphragm; contained no fluid. The left side of the thorax was thus entirely filled with the heart; there was no left lung whatever.

On the right side of the thorax, behind the apex of the heart, was a double lung, consisting of two long narrow lobes, side by side, connected in the middle for about two-thirds of their length. This anomalous lung was healthy, and seemed to have about the capacity of one normal lung.

The heart as it was taken out with the pericardium, with the auricle collapsed, measured nine inches in length and six inches in greatest breadth, and weighed three and a quarter pounds. There was but one common auricle, which was greatly dilated, which opened into each ventricle. It would probably hold a pint and a half of blood when distended. The auriculo-ventricular valves were very defective, especially the mitral, which could have offered very little resistance to regurgitation. The ventricles were greatly hypertrophied, especially the left. The aortic and pulmonary valves were intact, and this alone made it possible for any circulation to be carried on. The arch of the aorta was dilated, but beyond this it was remarkably small. The pulmonary artery was short, dilated and bifurcating about an inch and a half from its origin, passed into each side of the double lung.

The liver was also enlarged to several times its normal dimensions, extending entirely across the body, with the gall-bladder on the left side.

The stomach was long, intestinal shape, having scarcely any of the form of the normal stomach.

The spleen, or rather three distinct spleens, were situated in the right side, also enlarged. The larger one measured seven inches in length by three inches in breadth; the second one, which is about the size of the normal spleen, is three inches by two inches; and the smallest one two inches by an inch and a half. These glands are entirely distinct, but connected by large blood vessels, about two inches in length.

The kidneys were about double the usual size.

The other abdominal and pelvic organs were healthy and in their normal relations.

All who saw the case were agreed that it was the most remarkable of its kind of which they had any knowledge. And it is especially interesting to know that a child could live in this condition to be 16 years old, and nearly all the time in quite a comfortable degree of health.

PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI).

BY BYRON ROBINSON.
PROFESSOR OF GYNECOLOGY POST-GRADUATE SCHOOL, CHICAGO.

(*Continued from page 152.*)

The omentum colicum Halleri is the right lower border of the great omentum. It can be distended with air driven through Winslow's foramen. If one follows the peritoneum from the right kidney upward and outward over the pars descendens duodeni, upward to the anterior part of the transverse colon, it will be noticed that this layer of the peritoneum passes into the anterior layer of the great omentum. This is Haller's omentum and it will extend along the ascending colon for a considerable distance; the point of its lower end may reach the cecum in some embryos which I have examined. This same process of peritoneum which I traced from the right kidney until it was lost in the anterior layer of the great omentum, can also be traced up to the ligamentum hepato-duodenale with which it may blend and form

what is known as the ligamentum hepato-colicum. This fold of omentum reaches from the hepatic flexure of the colon to the liver. It seems to be often no more than an increased projection of the ligamentum hepato-duodenale. In quite a number of cadavers I have actually noted the gall bladder lying in this coli-hepatic ligament. There was a mesentery of over an inch between the liver and the gall bladder, and also a mesentery reaching from the gall bladder to the hepatic flexura of the colon. The gall bladder lay in this ligamentum hepato-colicum exactly as the pancreas lies in the great omentum between the stomach and colon (in embryos). This hepato-cysto-colic ligament is of great importance in subjects of gall stone. For it will serve two valuable purposes, viz.: 1, it will conduct an hepatic calculus ruptured through the gall-bladder toward the colon external to the peritoneum and induce it to enter the colon on a portion not covered by peritoneum; 2, this ligament, when large will especially aid in circumscribing pus which arises from rupture of the gall bladder. It will form a barrier against infectious invasion. By the peculiar ligamentum hepato-colicum, there is formed a more or long distinct cone-like sac in the right border of the great omentum, just as there is formed a sac in the lower left border of the ligamentum phrenico-colicum. Any evaginated peritoneal sac is liable to obliteration, so this sac no doubt is more or less obliterated by coalescence or readjustment.

Bochdeleck asserts that Haller's omentum gradually loses the capacity of being distended with air being blown through Winslow's foramen toward the fifth embryonal month through coalescence. Yet some embryos at five months allow a large sac to be distended by air in the omentum colicum Halleri. I have observed in adults that the omental sac is frequently limited in various directions by adhesions. In an adult male which I recently examined, I tore through the gastro-colic omentum to make careful observations of the lesser omental cavity for two reasons: 1, because the case possessed a mesenterii commune and I wished to note the existing omental relations; and 2, the remnants of ancient peritonitis were quite general and I wished to note its effect on the omental cavity. In this case the omental cavity was chiefly limited toward the left by approaching adhesions or coalescence of the walls where the sac was prolonged between narrow layers and peritonitic bands stretched across the space, and the lesser omental bag lacked the space of an adult form encroaching adhesions on the margin of the sac. I could find no constricted off sacs, but could find depressions constricted off, which could easily become constricted off sacs by further coalescence due to inflammations. I have found peritoneal pockets or sacs constricted off by inflammation frequently along the colons. Such sacs or peritoneal pockets appear to be lined by genuine peritoneum and are of various sizes, from that of a hazel nut to that of an apple. The only typical lesser omental sacs are those of embryos under seven months of intra-uterine life. For in adults I find the lesser omental sac, especially at its left end, variously limited in size by various kinds of encroaching adhesions at its margins. In short, the encroaching adhesions or coalescence of the lesser bag is apt to occur on the left, adjacent to the ligamentum phrenico-colicum and at the right in the omentum colicum Halleri. Bochdeleck gave a splendid illustration of the relations of the ligamentum hepato-colicum by noting that it will distend with air driven through the Winslow's foramen and also that in some cases the distension will actually reach to the neck of the gall-bladder, along the descending part of the duodenum and even in front of the pancreas. All the above distensions are in direct communication with the lesser omental bag. The lesser omental cavity becomes partially obliterated at different periods of existence, without any rule I can formulate. However, my examinations report that the chief variations arise at the extreme right or left of the omental sac. Now to retrace the steps by which the great omentum becomes the meso-colon is impossible so far as it relates to Meckel and Miller's views. Coarse instruments will fail, and even air driven through Winslow's foramen is insufficient to note the original boundaries. One can not tell what his instrument has divided or what the distending air has separated, and I am sure that much manipulation does not bring one to the goal of primitive structures. I must state, however, that embryos show very distinctly that the origin and method of formation of the meso-colon transversum as well as the circumference of the bursa omentalis vary very much as regards individuals and time.

It may be summed up as follows: from the ligamentum hepato-colicum to the ligamentum phrenico-colicum, the peritoneum consists of one membrane, *i. e.*, one blade of the great omentum at its lower border. It may be said that the lesser omental cavity is the diverticle of the mesogastrium posticum. The lesser omental cavity may consist of diverticulæ constricted off at either right or left ends or both, *i. e.*, closed off sacs may exist in the ligamentum phrenico-colicum or in the omentum colicum Halleri.

THE GREATER OMENTAL CAVITY, THE GREATER CAVITY OF THE PERITONEUM, THE GREATER BAG OR SAC OF THE PERITONEUM.

The greater sac of the peritoneum is that one placed between the viscera and anterior abdominal wall. It comprises all the peritoneum except that of the lesser sac. The greater or lesser sacs are not placed in regular order, but may be compared to an hour-glass with one end smaller than the other, and also the smaller end bent over the greater end, *i. e.*, the hour-glass is not in the same straight line. The smaller sac lies almost wholly within or below the greater sac. The greater sac with its posterior layer lies on and faces the anterior surface of the viscera. Its posterior layer lines the anterior abdominal wall. The posterior layer of the sac lies on the surface of the viscera and sends back folds and tucks into the clefts between the viscera. The various diverticulæ which the greater bag projects between the viscera not only line the visceral clefts, but pass back in places to most the projections of the lesser bag, *e. g.* one diverticle passes back between the liver and diaphragm to meet the lesser omental bag. Another projects between the stomach and liver to meet the lesser bag at the tranverse fissure of the liver. Still another pouch of the greater bag passes to the dorsal wall between the transverse colon and the small intestines. This pouch comes in contact with the lesser bag at the under surface of the upper blade of the mesocolon transversum. The long, wide, pendulous, pars colico-omenti hangs freely into the greater omental sac. In short, the greater sac almost sur-

rounds the lesser sac. The anatomic fact is that the two sacs greater and lesser, are not and should not be separated. They are one and the same membranous bag simply constricted at the foramen of Winslow, lying between the portal vein and the inferior vena cava. At the lower end of the great omental sac there are some smaller diverticulæ. There is one between sacrum and rectum, one between uterus and rectum and one beside the omental sac envelopes the viscera lying along the dorsal wall and in the pelvis, and then its anterior layer lines the anterior abdominal wall. The great omental flap consisting of four layers (the pars colico-omenti) hangs like a veil in the middle of the great bag.

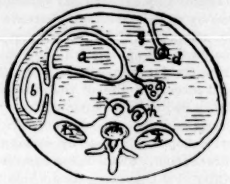

Figure 36.

At this place the figure of Cruveilhier (See JOURNAL, p. 149.) can be referred to as it is an apt cut in illustrating some of the views of coalescence. It will be observed by this figure that the two blades of the mesogaster, one from the posterior and the other from the anterior surface of the stomach, converge at the greater curvature of the stomach and pass downward below No. 5, whence the two blades return on themselves, passing upward entirely in front of the transverse colon, onward to the dorsal wall of the abdomen. Now, the posterior blade of the great omentum ascends on the dorsal wall of the abdomen, while the anterior blade descends on the dorsal wall for a short distance, thence it passes forward to form the upper blade of the transverse mesocolon. When this upper blade arrives at the transverse colon it passes around the bowel and forms the under blade of the transverse mesocolon, whence it descends to form the mesentery of the small intestines. The dispute between the coalescence and displacement theories concerns the pouch No. 2. The coalescence theory claims that the peritoneal pouch No. 2 becomes obliterated by adhesion. The displacement theory claims that the pouch No. 2 is drawn out and readjusted so that no part of the serous layer lining the peritoneal pouch is destroyed. v. Hansen wrote a treatise on the physiology and anatomy of the peritoneum in 1839 in Latin, in which he claims that in the fetuses there are five peritoneal layers in front of the transverse colon (as in the figure) and not three as in (Fig. 21, JOURNAL, p. 108.) In the adult the adhesions of the layers forming pouch No. 2 and the dotted line into one single layer obliterates pouch No. 2 and produces conditions observed in grown persons. But the readjustment or displacement theory allows of no coalescence or obliteration and insists on the dragging out of peritoneal pouches during the progress of visceral development. The displacement theory readjusts the serous surface over the viscera during their varying vicissitudes of growth and fluctuations of size. The displacement theory is a very elastic and widely applicable affair. It allows viscera to appropriate serous membrane to the disadvantage of other organs. It is an evolutionary theory, a survival of the fittest, *e. g.*, the growing cecum steals away from the atrophying appendix its covering, appropriating it to its own needs.

In regard to the great omentum, it may be said that not all the mesogaster is involved in the formation of the lesser omental cavity. Only that part of the mesogaster which is in contact with the stomach itself is involved in making the smaller peritoneal bag. That part of the mesogaster which is attached to the duodenum does not enter into the formation of the lesser sac.

The mesoduodenum, minus the serous epithelial layers which originally faced both sides, lies against

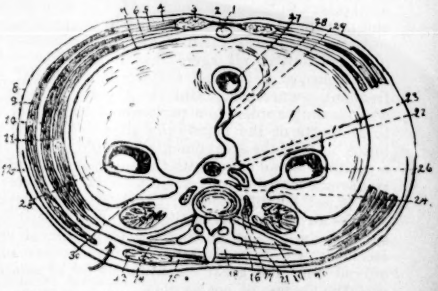

Fig. 37 (after Debierre, 1890, modified) represents a horizontal section of the body on a level with the umbilicus to show the disposition of the peritoneum. 1, white line; 2, round ligament of liver; 3, rectus abdominalis muscularis; 4, aponeurosis of external oblique; 7, parietal peritoneum; 20, kidney; 21, psoas muda; 22, vena cava; 23, aorta; 24, pillars of the diaphragm; 25, left descending colon; 26, right ascending colon; 27, small intestine; 28, right blade, 29 left blade, of the mesentery; 30, mesocolon, left. It must be observed that the vertical colons in this diagram are represented as possessing each a mesocolon, which long investigation in the viscera has convinced me are abnormal. The normal vertical colons appear to me to possess no mesocolon. The arrow points to Petit's triangle.

the left dorsal wall and does not engage in forming the lesser sac. It may be allowed that a small part of the left serous surface of the mesoduodenum enters into the formation of a small part of Haller's omentum, but that is not settled. Hence only the gastric portion of the mesogaster is involved in the formation of the lesser sac of the peritoneum.

As regards the views of the coalescence of the peritoneal surfaces or displacements of the same,

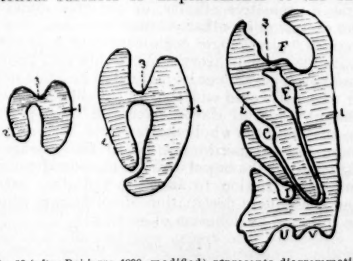

Fig. 38 (after Debierre, 1890, modified) represents diagrammatically the development of the greater and lesser cavities of the peritoneum. 1, greater cavity; 2, lesser cavity of the peritoneum; 3, hiatus Winslowii; *E*, stomach; *F*, liver; *I*, intestine; *C*, colon; *U*, uterus; *V*, bladder.

considerable has been said by only a few authors. Those who support the coalescence theory must present reasonable grounds, especially, to show why it applies to distinct localities of the peritoneum as, *e. g.*,

the great omentum. The view of coalescence must be based on: (*a*), local peritonitis whereby the epithelium of the peritoneum is destroyed and the two bared, denuded surfaces simply unite as in any other wound; (*b*), the advocates of peritoneal coalescence must show that the epithelial cells of the serous layer are not genuine epithelial cells or that they are another structure—endothelial; (*c*), they must show that these endothelial cells are of such a character that they will coalesce and disappear in a physiologic manner, *i. e.*, the peritoneal surfaces are of a connective tissue type and hence a normal physiologic coalescence may arise; (*d*), such advocates must show why this "physiologic coalescence" occurs in local places in the peritoneum, as the great omentum, and not anywhere and everywhere in the peritoneum.

As far as regards the first view of coalescence by local peritonitis, all agree that it is correct; that coalescence of peritoneal surfaces is an actual and frequent occurrence. But the theory will not fit when it only applies to a particular locality and not to all parts of the membrane alike. Why the anterior blade of the great omentum should be subject to a peritonitis and blend with the superior blade of the transverse mesocolon by peritonitis in intra-uterine life, is not tenable because, under the same circumstances any other part or the whole of the peritoneal surfaces might be endangered to peritoneal coalescence. In this theory no adequate reason is offered why the great omentum alone is attacked with the process of coalescence.

The second theory of coalescence comes, so far as I am aware, from the venerable pioneer, Professor His of Leipsic. This theory advocates the idea that the serous epithelium is not genuine epithelium, that it is endothelium, or rather nothing but connective tissue cells. Therefore as connective tissue cells it can coalesce at any other point as any other connective tissue surface. If this were the case it may be asked why coalescence, especially in the great omentum and not everywhere on the serous surface; why this predilection for the great omentum and not any and all the peritoneal surface. If the epithelial cell on the serous surface is only connective tissue, a person is in constant danger of having his whole peritoneal sac obliterated at any time.

This theory does not explain any more than the first, its selective affinity for the great omentum to the exclusion of other serous localities. So far as regards "physiologic coalescence," it does not differ from the second theory. We would not know when and how it began, nor its method of progress nor when or where it would end, so that the coalescence theory has no especial favor, except a local peritonitis. In that case the whole matter rests back as to what induces local peritonitis. Will the passage of the right end of the bowel over the mesoduodenum create sufficient friction to arouse a (plastic) peritonitis and consequent destruction of epithelium which will be followed by cohesion of surfaces?

(*To be continued.*)

Trustees of Insane Asylum to Receive No Compensation.—Section 3, of chapter 330, of the Wisconsin Laws of 1889, entitled, "An act relating to the maintenance and care of the chronic insane in counties having a population of more than 100,000, and an asylum therefor," is amended by adding a provision that "such trustees shall receive no compensation."

SOCIETY PROCEEDINGS.

The Ohio State Medical Society.

Annual Meeting held at Columbus, May 15, 16 and 17, 1895.

(*Continued from page 201.*)

SECOND DAY—MORNING SESSION.

DR. JOHN A. THOMPSON, of Cincinnati, Ohio, read a paper on

DEAFNESS FROM INTRANASAL DISEASE.

Diseases of the ear are more intractable to treatment than those we encounter in any other department of medicine. Late cases of chronic catarrhal otitis media in either of its forms, are regarded by experienced otologists as being almost hopeless by modern methods of treatment. From this hopelessness arises the constant suggestion of new procedures directed to the ear itself, in the hope of at least partially restoring the function which is so important to the happiness and success in life of the individual. A few observers, notably Swineburne, turning from the attempt to cure the already established condition, have sought to lessen the number of hopelessly deaf by seeking the cause, and method of prevention. Swineburne examined the nose and throat carefully in a thousand cases which presented themselves at the Harlem Eye, Ear and Throat Infirmary, complaining of deafness. Where deafness resulted from disease of the middle ear, his conclusions are that in 95 per cent. of all cases the primary lesion is in the nose or naso-pharynx.

Just how disease in these organs produces chronic inflammation in the tympanic cavity, has been a question of dispute. Some experienced writers assert it is due to the direct extension of inflammation by continuity of tissue. In structure, the tympanum is only one of the accessory sinuses of the nose, though it differs entirely from that organ in function. Others have thought we could trace the resultant ear disease, secondary to obstructive lesions in the upper respiratory tract, to imperfect aeration of the middle ear. Still other authorities have thought that the interference with the circulation in the internal and middle ear by the inflammatory and neoplastic changes in the nose or nasal pharynx, was the cause of the secondary disease. It is probable that each method plays a part in the production of secondary diseases in the middle ear.

While I have seen many cases where the secondary deafness could be accounted for, and the cure understood from the well-known relations of nasal and aural diseases, I have encountered others that are not susceptible of explanation by any of the known facts in rhinology or otology. I wish to report three of these cases, chosen because they are dissimilar in many of their features. They suggest that there is a relation not yet understood, between the healthy condition of the nose and naso-pharynx, and the sense of hearing. In all of these cases there has been a serious and irremediable impairment of the organ of hearing, yet in all, the ability to hear has been greatly increased by restoring the nose and throat to their normal condition.

Mrs. S., aged 31 years, married when 16 years old, has suffered from diseases of the generative organs since the birth of her first child. She is very nervous, weak and anemic. She suffered from pains in the chest, headache, cardiac palpitation, rapid pulse and dyspepsia. These symptoms could not be relieved by ordinary constitutional treatment. She was referred to me by her physician, Dr. W. H. DeWitt, for the treatment of the upper air passages, with the hope of relieving these intractable symptoms, which he believed were secondary to the local disorder.

The patient had marked hypertrophic rhinitis with a deflected and thickened septum. The thickening was in the right nostril. There was also marked naso-pharyngeal catarrh. The right ear was deaf to all ordinary tests. She could not hear the watch on contact. She could not hear the conversational voice. She could hear loud voices only as an indistinct noise. She gave a history of this ear as follows: seven years before, while suffering greatly from her uterine trouble, the ear became inflamed and was intensely painful for several days. The drum was finally perforated;

the pain diminished with the free discharge of pus from the ear. She had had occasional attacks of acute suppuration in the middle ear from that time. Inspection of the ear showed a cicatricial drum membrane with evidence of old perforations. There was no suppuration at this time. The ossicles were firmly bound together by old inflammatory adhesions. The condition revealed by inspection was so bad that no attempt was made then or subsequently to improve the hearing by treatment of the ear. The hypertrophic rhinitis was treated by the usual method and the spur on the septum was removed March 13, 1894. The headache and neuralgia of the chest which the patient had supposed were all due to her uterine trouble, were entirely relieved within six weeks after this operation. The rapid pulse and cardiac palpitation yielded to the combined effect of the operation and heart tonics administered internally. The patient began to improve in health and strength and in a short time felt better, weighed more, and was better able to do her work than she had been for years. About ten months after the operation, she discovered that the hearing had returned to the supposed incurably deaf right ear. A careful test of this organ in April, 1895, shows that the patient is able to hear the conversational voice fairly well, and hears the watch, which was not heard on contact before the operation, two inches from the ear.

F. J. H., aged 18, had scarlatina when he was 13 years old. The scarlatina was complicated by purulent otitis media in both ears. The drum membrane and ossicles of the right ear were completely destroyed. In the left ear three-fourths of the drum membrane was destroyed and the ossicles remained bound together by cicatricial adhesions. With every cold the patient caught, there would be suppuration from one or both ears. I saw him first in March, 1894. At that time he heard a conversational voice one foot, could not hear a watch on contact, and could not hear a whisper at all. There was no appreciable difference in the hearing powers of the two ears. He was about to lose his situation as clerk, because of his inability to carry on a conversation with customers in the store.

Examination of the nose and throat showed hypertrophic rhinitis and a large spur on the septum in the left nostril. There was a complicating naso-pharyngeal catarrh. After treating the acute inflammation that was present when I saw him, for a few days, I removed the spur and cauterized the hypertrophied turbinated bodies so as to give him free breathing room through the nose. The left ear was suppurating when I first saw him, but this suppuration readily yielded to the dry treatment. The patient was under treatment six weeks and was dismissed with the ability to hear a whisper three feet and to distinguish ordinary conversation so readily that he still retains his position as clerk. Dec. 1, 1894, he caught a severe cold, and with the resultant swelling and inflammation of the nose and throat, his hearing became again seriously impaired. Ten days of local treatment cured this attack, and with the return of the nose to the normal condition, the hearing distance for the whispered voice again became three feet for either ear.

Mrs. F. L. J., aged 35, has been deaf from childhood. I can get no distinct history of the cause of this deafness. She had repeated attacks of acute purulent otitis. In her earlier years she was treated by a number of good otologists who succeeded in checking the suppuration, but did not prevent the total loss of hearing power in the right ear. She had been constantly under the care of a competent man for three years before I saw her. She had visited him once or twice a week all this time to have the left ear inflated by the Politzer method. This inflation gave temporary relief from the tinnitus aurium and improved the hearing temporarily. In spite of this treatment, the deafness was progressive and at the end of the three years she was worse than at the beginning of this period. Examination of the ears showed the right ear with only a perception of loud sounds. Inspection of the drum showed only a mass of cicatricial tissue, through which nothing could be seen to throw any light on the condition of the middle ear. The left ear showed a badly retracted drum membrane with cicatrices where old perforations had healed. Loud voice heard only one foot, watch not at all, in left ear. Examination of the nose showed a bad hypertrophic rhinitis, and in the right nostril at the junction of the perpendicular plate of the ethmoid with the triangular cartilage, there was an enchondroma with a broad base nearly an inch in diameter and so thick that it completely filled the upper and anterior portion of the right nostril.

As all known methods of direct treatment had failed to benefit the deafness, I decided to remove the enchondroma and to restore the lumen of the nostril by cauterization of the hypertrophied tissue in the turbinated bodies. The operation was made under chloroform Oct. 11, 1894. I cut the nasal branch of the ophthalmic artery in the first incision for the removal of the tumor. This complicated very much an operation always difficult to perform on account of the free bleeding hiding the field of operation. I removed the tumor as rapidly as possible and packed the nose with cotton saturated with McKenzie's styptic solution. Recovery was further complicated by an attack of follicular tonsillitis which began three days after the operation. The patient was already weakened from loss of blood and from the shock, so the attack of tonsillitis was unusually severe and prolonged. The immediate effect upon the hearing was disastrous. As soon as the patient was able to resume her visits to the office, the hypertrophied tissue in the turbinated bodies was destroyed by the galvano-cautery as rapidly as this could be done without exciting severe inflammation. The patient remained under treatment for four months and was dismissed with hearing distance for the watch, left ear, of nine inches. She hears the ordinary conversational voice with ease. Up to the present the improvement has continued, and I have no doubt the hearing will be better a year from now than it is to-day.

These three cases present a few similar features. There was in all marked nasal obstruction from hypertrophy of the normal tissues and from the growth of abnormal structures. The condition of the ears in all was such as to offer no hope of cure by treatment of the ear itself. All were benefited so they could hear ordinary conversation, the best test of hearing power, by treatment of the nose.

In the first case reported the ear was never treated, either before or after the operation on the nose, yet as a result of this operation, hearing was restored to an ear which to all appearance was hopelessly deaf.

In the third case, the patient had been under the constant care of competent men from childhood to mature life. In spite of this care, the hearing power was entirely lost in one ear and so far diminished in the other ear that common conversation could not be heard. Yet, in this case, the hearing power is restored to the ear by restoring the normal lumen of the nostrils. During the time she was my patient, the ear received no treatment. It might be said the result in these cases was due to the fact that normal respiration and aeration of the middle ear through the Eustachian tube was restored. While this is a possible explanation, I do not believe it to be the true one. In the third case the Eustachian tube had been kept open by constant treatment, yet the deafness was increasing. The tube remaining open, no attention was paid to it while I was treating the nose, yet there was a remarkable gain in hearing power. It certainly will not apply to the second case, where in one ear there was no drum membrane at all and in the other ear only a remnant. The recurrence of the deafness months afterward when the nose became inflamed and swollen, and the prompt restoration of good hearing power by treatment of the nose, is an additional demonstration of the controlling influence that, in this case at least, the nose has, on the power of hearing.

While I do not pretend to explain the influence which brought about the deafness or the cure in these cases, there is a practical conclusion to be drawn, upon which we can act, even if we do not understand thoroughly the theory or the principle on which our action is based.

This practical deduction is that no case of supposed incurable deafness is really so, unless the nose and naso-pharynx have been examined and treated, if necessary, by a competent rhinologist.

Dr. A. H. Hewetson, of St. Clairsville, Ohio, read a paper on

COMPLICATIONS AND SEQUELÆ OF EPIDEMIC INFLUENZA (LA GRIPPE), AND THEIR PROPHYLAXIS.

ABSTRACT.

Of complications, undoubtedly pneumonia and bronchitis are more often present, but there is a dispute among observers as to which of these occurs more frequently. A recent French writer believes that the complex pathology of these chest complications is explained by the presence of different microbes in different forms. There are thus congestive, inflammatory and suppurative pneumonias; these produced by pneumococci and those caused by streptococci.

It is an admitted fact that the virulence of microörganisms is raised to the highest degree in all forms of influenza and its complications.

The important duty is to remember the depressing nature

of the original affection. Especially remember the importance of sustaining and energizing the cardiac and respiratory nerves. In my limited experience I have found nothing that can compare with strychnia and digitalis; full doses of digitalis and much larger than the ordinary dose of strychnia. We are too timid in our dosage of strychnia. In those cases where the influenza is still active, I add to the above, fl. ext. aconite in small doses. This may appear heterodox, but I believe it to be a sensible combination. Phenacetin and its companions of the coal-oil group, with codein, may be continued in some cases from the original influenza to the complicating pneumonia and bronchitis. An early recourse should be had to cod-liver oil and syrup of hypophosphites or similar tonic remedies.

Pleuritis is a complication which is not very frequent, nor is there any particular management required except to remember the nature of the previous trouble. A more frequent complication, as well as more troublesome, is pleurodynia. In our part of the State it has been of very frequent occurrence the past season. The pain is often severe, resembling pleuritis or pleuro-pneumonia. Pressure along the course of the intercostal nerve will promptly locate the trouble. It is usually located on the left side. Great alarm frequently results from the feeling that the heart is or would be involved.

At certain times in some epidemics, rheumatism is a complication. Disorders of digestion are frequently complications; they constitute a very troublesome form of the disease. Fortunately, however, the stomach is, as a rule, only functionally affected, the disturbance of digestion being due largely to the effects of the general disease upon the nerve centers.

Of complications we must view those having a nerve origin as the most important and perplexing. Post-mortem examination of a patient who had died of influenza, revealed serious injury to the brain. Althans, of London, refers to the results of a series of eleven post-mortem examinations. In every case intense hyperemia of the pia mater at the base of the brain was present. The arteries were distended and the consistence of the brain and spinal cord was increased. In two cases by Fürbringer, the autopsy revealed capillary emboli and hemorrhagic foci in the lobes of both hemispheres, involving the white and gray substance. Mills, of Philadelphia, classifies the organic nervous lesions occurring in the wake of influenza in the following order; neuritis, meningitis, myelitis and cerebritis. He considers no single affection so common as neuritis, occurring in every form as to location and diffusion. By some authors, meningitis is said to cause more deaths in influenza than heart failure.

To name, number, classify and explain the nervous consequences of la grippe is a task too great to be undertaken. While their number and variety is legion, still we believe a careful consideration will show that they result from the exhaustion of the power of the nerve centers, due to the effect of the essential poison upon nerve structure. Cephalalgia, trigeminal neuralgia, insomnia, loss of memory, cardiac weakness, indigestion—in a word, functional derangement of all the organs, can in a vast majority of cases be traced back to a neurotic origin. If a careful examination does not reveal any central cause, then the task may be wonderfully simplified by regarding all as forms of exhausted nerve force or vital power. I do not believe we can do better than place our main reliance upon our friends of other years, strychnia, iron, quinin, cod-liver oil and phosphates. These cases in their multitudinous characters will afford opportunity for the largest experience. There is change of location, out-door life and exercise; there is the rest treatment, massage and electricity.

I wish to name one simple remedy I have found of great benefit, especially in the case of patients in advanced life when the waste products are becoming more and more retained; the coatings of the vessels filling gradually; in these cases I urge the patients to use hot water freely—to drink all the stomach will retain. It is frequently surprising how soon improvement appears. Having applied the teaching of modern scientific hygiene in an intelligent manner to the case, and given careful attention to the mucous lining of the nose and throat, the medical attendant has about performed his duty. For a scientific prophylaxis we must look to the faithful pathologist and bacteriologist.

DISCUSSION.

DR. E. B. FULLERTON, of Columbus—I think there is no doubt as to microbic origin of influenza. There is not that proof which would have been satisfactory some years ago; but there is proof, that, after the discoveries or proofs in regard to the bacillus tuberculosis, is conclusive I think to reasonable men. There have been a number of experimenters in regard to this. You all have knowledge of the various experimenters, from Pfeiffer, Kitasato, Canon, onward.

There are some very interesting allied diseases. Among animals, the epizootic must have a microbic origin also. The epizootic sometimes attacks men. Influenza, I believe never attacks animals in the ordinary state, although it may be communicated. A remark about the character of the condition in the different years of its prevalence in this epidemic, seems to me not out of place. I should say the typical epidemic we had in Ohio was in 1889-90. Then we had the typical season, and I think since then the disease has been more likely not to be typical. During the last winter I have rarely seen a typical case of grip. There have been more mild cases, which would pass almost for bad colds.

In regard to complications—and that is the matter to which really this discussion should be limited—I think the Doctor has spoken of the most of them. One of the most obstinate cases of brachyalgia I have ever seen was undoubtedly of this origin. I have seen several cases of sciatica that were unusually obstinate as the result of this disease. I have seen one case of cruralgia, also. In regard to the treatment of the complications and sequelæ, this of course merges into the treatment of the disease.

As to the treatment of grip. There has been one treatment I adopted in the typical cases in the beginning that I have seen very little of in the journals, and have heard only little of in discussions, and that is the treatment by the tincture of aconite, one or two drops every hour. This will quiet the fever and the pulse, and relieve the catarrhal conditions about as much as any of the new remedies. Dr. Whittaker, in his very valuable work on the "Practice of Medicine," mentions salipyrin as almost a specific. Whether others count it so, I do not know. I know in my practice I have found it to have no more prompt control than other remedies commonly used; phenacetin, the so-called antifebrin, acetanilin, aconite and the bromids. And, gentlemen, there is no remedy like full doses of the bromids. Where the patient is complaining of pain, interfering with his rest, full doses, 30 grains, of the bromid of potassium will answer like a charm.

DR. CALDWELL—The most disastrous complication I have had to deal with is the tendency of old people to take on degenerative processes. Weakness comes on from the exhaustion of the disease. This has not occurred in the last year or two that we have been having the grip. And I would rather agree with the last speaker, it has become rather a popular name, and as physicians we are prone to use the term a little recklessly.

DR. NORTH—I have seen within the last few years quite a number of cases of influenza; that is, the form of grip called influenza, attacking the respiratory tract. I believe this disease to be of microbic origin. It has become quite a fad with the profession. I do not know how we would get along without the grip. We are in the habit of calling everything we do not understand, "la grippe." Now I believe it arises from the presence of a microörganism, and this microörganism develops or generates a ptomaine, and this ptomaine enters the system and affects the ganglionic system. Why it affects one ganglionic system in one person and not in another, I can not explain. Sometimes it affects the celiac axis and sometimes other ganglia. I want to protest against the use of quinin in this influenza in any form. The paper read gave an account of post-mortem examinations, where hyperemia and inflammation had taken place in the membranes of the brain. I believe I have treated a number of cases of deafness, due to quinin given in influenza. It is one medicine that should never be given in influenza. I am a great friend of quinin, but would not use it in influenza. It causes hyperemia and inflammation of the brain. If you study the cases which go on to insanity, you will find the majority of them have been treated with quinin. I have used in these cases a combination of salol and phenacetin. It has acted almost as a specific. I combine two and a half grains of salol with an equal quantity of phenacetin. If you go into the decomposition of salol and phenacetin, you will find a physiologic reason for its action. You will find some of these patients blue from paralysis of the heart, due to the action of coal-tar products. But with the quantity in these pills, it takes only a few hours to get good results.

(To be continued.)

Chicago Pathological Society.

(Continued from page 111.)

Regular Meeting, May 13, 1895.

DR. WELLER VAN HOOK, President, in the chair.

DR. ARTHUR R. EDWARDS read the first paper on the program, entitled

REPORT OF CASE OF CHRONIC FIBROUS MYOCARDITIS PRODUCING A RELATIVE AORTIC REGURGITATION.

The patient was 54 years of age, drank hard and had rheumatism. For four weeks he had suffered from dyspnea, edema, tympany, anorexia, coughing and occasional vomiting. On examination, there was orthopnea, ascites and anasarca. The heart was enlarged, especially the left ventricle, to which were added the signs of hypertrophy of the same chamber, as evidenced by the quick pulse and heaving apex beat. The physical findings were those of aortic regurgitation; weak second aortic tone, soft protracted blowing, diastolic aortic murmur heard over the second left intercostal space near the sternum, the alterations in the left chamber as already mentioned, and appropriate sphygmographic and auscultatory arterial phenomena. While the clinical diagnosis was aortic insufficiency, the autopsy disclosed an extensive fibrous myocarditis with secondary ventricular hypertrophy and dilatation. The cause of the myocarditis was atheroma of the coronary arteries and coronary thrombosis. Relative insufficiency is very rare and myocarditis has never been described as one of its causes. A complete review of the literature of this variety of relative insufficiency gave but twenty-five cases.

Two main etiologic agents exist: 1, ventricular dilatation; 2, dilatation of the aorta. Ventricular dilatation producing relative aortic leakage has resulted from muscular exertion, myocarditis, idiopathic cardiac hypertrophy, arterio-sclerosis, aortic atheroma, increased arterial tension, synechia cordis, and parietal endocarditis. Aortic dilatation is caused by atheroma, aneurysm, trauma and acute inflammation.

The clinical diagnosis is involved. Groedel's "distance" murmur and percussion of a dilated arcus ascendens have made diagnosis *intra vitam* possible. Accidental venous diastolic murmurs may complicate the diagnosis. Murmurs, even diastolic, do not constitute a valvular lesion. Renvers has demonstrated the intimate connection between the walls of the left ventricle, the auriculo-ventricular ring and aortic valves, whereby ventricular dilatation may render the aortic valves incompetent.

DISCUSSION.

DR. JOS. M. PATTON—This is certainly a very interesting subject, because it brings before us the diseases of the heart which are very difficult of recognition in a clinical way. Fraentzel congratulated the profession a year ago on the fact that diagnoses of myocarditis were much less frequently made than formerly. Virchow has always maintained that myocarditis was a rare affection, and has always been inclined to deprecate the freedom with which this diagnosis was made. Certainly, so far as clinical signs are concerned, it is very difficult to make a diagnosis of myocarditis. There are four forms of myocarditis which it is claimed can be observed clinically with more or less distinctness, viz: the acute circumscribed myocarditis, acute diffused myocarditis, chronic circumscribed myocarditis, and chronic diffused myocarditis. The two first mentioned can probably never be diagnosed of themselves, but may be suspected on account of the associated conditions with which they may appear. The third mentioned might be diagnosed by a physical examination in case of a localized area of degeneration, where resultant dilatation from the area would present in such a way as to be perceived by palpation or percussion (a so-called cardiac aneurysm), otherwise it could not be diagnosed. The fourth is the most interesting one, because we will meet with it as we become acquainted with these ill-defined cardiac diseases. Chronic fibrous myocarditis occurs most often on the left side of the heart. It is associated with many other conditions of the vessels and of the other internal organs. It may affect small portions of the cardiac muscle; or the cardiac muscle may be excessively changed by the aggregation of these cicatricial patches and deposits, as described by Dr. Edwards. The clinical interest centers in our ability to formulate some class of symptoms, by which we could deduct this condition in life. There are no symptoms which are in any degree pathognomonic to chronic myocarditis. The symptoms which do present are essentially those of either uncompensated valvular lesion, or of failure of the lesser circulation. The symptoms of marked ataxia of the muscle are the same. They may take the form of severe dyspnea, or there may be symptoms of pulmonary infarction or edema. The dyspnea may simulate that which accompanies advanced sclerosis of the peripheral vessels, but even if it is associated with infarction or edema, the condition is transient, and it is doubtful what part this might play in the production of symptoms. The physical examination of the heart will reveal nothing, except the enlargement of the left cavity in the earlier stages of the disease, and that dilatation may disappear later on. Very often there is marked enlargement, as in the case presented by Dr. Edwards. There is one symptom that is practically always present, and that is cardiac arythmia, very often amounting to the condition known as tremor cordis, with a pulse of 200 or upward, the pulsations being almost inappreciable; but then this condition is associated with so many others that it is difficult to place the responsibility for its occurrence. The fact remains that a rapid and arythmic heart is an almost constant clinical sign of chronic myocarditis. Then again, there is a distinctive feature in regard to the character of the heart sounds. The second sound is usually weak, and that is somewhat indicative, because in a great many conditions of weakened heart muscle we have a relatively louder sound as compared with the bulk—the volume—of the first sound; whereas, in advanced conditions of chronic myocarditis the second sound is usually weak. The principal feature in regard to the sounds is the variation that occurs in the character of the tones, a few tones being loud, sharp and snappy, and then a few following being weak and indistinct, a regular tic-tac, there being a greater variation of the force and volume of the tones than in any other condition of which I am aware. The report is certainly very interesting, particularly so because it is by just such clinical histories, accompanied by pathologic specimens, that we are to learn more of these very imperfectly defined cases, as we understand them at present.

DR. J. B. HERRICK—One of the lessons that is brought home to me by the very interesting and very instructive paper of Dr. Edwards, is the lesson that has been impressed upon me more and more, as I have studied heart cases, particularly in the light of autopsies—and that is the lesson that the murmur we hear from the heart does not always tell us the condition of the valve over which we hear the murmur.

Fraentzel, from whom Dr. Patton has quoted, makes the statement that of the physical signs of the heart that lead us to diagnose valvular disease, the murmur is the least important. I am sure that we have, all of us, more than once been deceived by an anemic murmur. It seems to me that we do not pay enough attention to the other evidences of cardiac disease that are really open to examination. For instance, the very inspection of a patient will often enable us to make a fairly accurate diagnosis. We can, by inspection and palpation, alone, almost make an accurate diagnosis of aortic regurgitation. We have in such cases diffuse apex-beat with heaving impulse, tortuous, pulsating temporal and brachial arteries; and we have the peculiar water-hammer pulse of aortic insufficiency. We can find, too, the tones that are peculiar to the latter lesion in the peripheral vessels, so that we could, without even listening to the heart, make a diagnosis of that variety of valvular disease. What Dr. Patton has said with regard to the second tone of the heart is, I think, worth a great deal. We frequently make mistakes because we do not pay enough attention to the condition of the second tone. We all know how valuable the second aortic tone is in cases of cardiac hypertrophy due to renal diseases, and, again, the value of the second tone as an aid in estimating the muscular tone of the heart itself is not to be underestimated. It seems to me then, that one of the lessons of this case is that we should examine, not alone for the murmur of the heart, but examine as well for the enlargement of the heart; examine the second tones, the first tone, the peripheral arteries; in a word, make a complete examination and not rest entirely upon a discovery of a murmur. I do not think it possible in this case to have made the diagnosis during life. All the typical signs of aortic insufficiency were present; no cardiac irregularity to suggest myocardial trouble. But the lesson remains that every cardiac murmur is to be considered in the light of other cardiac findings, before an estimate is to be made of its importance as an evidence of primary valvular disease.

DR. A. R. EDWARDS, in closing, said: One thing is suggested to me by what was said about increased pulse rate. In myocarditis the pulse may be increased, of normal frequency, and there is still another group in which there is a decreased rhythm. In this case we watched throughout for

any irregularity and it never appeared in the clinical course of the disease. Regarding the value of murmurs: it is one of the four cardinal rules of Fraentzel that a murmur does not establish a lesion at a valve, and that applies most especially to systolic murmurs, and the converse has usually been taken as true of diastolic murmurs, the latter always indicating a valvular lesion. I omitted in reading the paper, on account of its length, to state that diastolic murmurs may occur, due to inorganic causes. They have been demonstrated to be due to venous bruits in the jugular vein, in the cavæ superior and inferior, and furthermore they have been found in the cases which I have cited, nearly all of which have been diagnosed as organic lesions during life. As to the specimen, there is nothing on the slides, as they are shown, that are not found in specimens of myocarditis from other causes—simply, the broad masses of cicatricial tissue, some long cells, and few foci of round cells.

DR. T. A. OLNEY, of Chicago, read

A REPORT OF A CASE OF AMOEBIC LIVER ABSCESS.

Patient was admitted to the medical ward, where a diagnosis of liver abscess was made. This was confirmed by exploratory punctures with an aspirating needle, following his transference to the surgical ward. Drainage was secured by a rubber tube inserted in the posterior axillary line at the seventh rib, and a considerable amount of yellowish pus discharged. Death occurred in a few days following a further exploration by puncture of liver, dullness in front and behind having failed to locate other abscesses. At the autopsy several irregular large abscess cavities were found, one of these occupying the posterior and upper part of the left lobe—which the drainage had not reached. These were all surrounded by a marked zone of necrotic liver tissue and contained thick grayish pus which contained chocolate colored lumps and granular necrotic liver tissue. In the caput coli two or three small ulcers were found. There was no history of dysentery.

DISCUSSION.

DR. A. R. EDWARDS—I saw this case on the medical before it went to the surgical side, and afterward with Dr. Olney on the surgical side. When the pus was drawn from the thorax with the needle, the color of the pus was invariably white and very thin. There was none of the chocolate color in that cavity, at least. And then when it was transferred to the surgical side after free drainage, and the symptoms of sepsis were not abated, Dr. Olney put needles into the liver. The needles were inserted into the area of dullness beneath the hypochondrium on the right side, and once only was pus obtained in something like thirteen punctures. The pus in this instance was quite creamy. The interesting point, clinically, is that the largest abscess of all was concealed by the peritoneal adhesions which bound the lower surface of the left lobe of the liver to the upper surface of stomach, thereby entirely concealing a large abscess by the gastric tympany. If we had pushed the needle through the tympany, we would have reached the liver abscess which caused his death. There were at the post-mortem, other small abscesses, too small for clinical detection.

DR. E. R. LECOUNT—I happened to see the autopsy conducted in this case, and it is interesting from several standpoints. First, the small amount of intestinal involvement. Only three ulcers were found in the caput coli, and those were very small. The amount of liver involvement was very large. Another interesting point in connection with cases of this character is that, as a rule, the pus is chocolate colored, due to the necrotic liver substance contained in the pus. Another interesting feature—the pus was brought into the laboratory from the morgue, placed on a slide and a drop of warm salt solution added, when amœbæ with amœboid movements were seen by a number—Dr. Weaver, Dr. Williams, Bishop and myself, and some of the assistants. As soon as it was found that the amœbæ were active, they were fixed with 2 per cent. Fleming's solution, and in this way they were positively differentiated from the necrotic liver cells.

In the examination of pus from the liver, while the patient is still living, it is frequently very difficult to distinguish possible amœbæ from necrotic liver cells, on account of the vacuoles that will be present in both of them, the amœbæ being frequently dead as well as the liver cells. A 1 per cent. osmic acid solution was used to differentiate fat from vacuoles of the amœbæ and fulfilled expectations. Notwithstanding the small amount of mucous membrane involvement of the colon, the amœbæ coli were very numerous in the mucous membrane and were found down between the mucous follicles and beneath the mucous follicles lying upon the muscularis mucosæ.

DR. JAS. W. WALKER presented specimens from an ancient empyema, and made the following remarks: I regret that I can do nothing more than offer these specimens. I know nothing of the history of the patient but that he was a man of 60 years, admitted to the hospital for an operation on a neoplasm of the right eyelid which was to be performed to-day. He was in the hospital a few days and died suddenly on Saturday. Unfortunately, no careful history of the patient has been recorded, so I can only show you the result of the post-mortem made this morning. The neoplasm of the right lower eyelid, growing for one year on the site of a pigmented mole, is presumably an epithelioma.

In the ileo-cecal valve (the rest of the intestinal canal was negative) was a small tumor projecting into the lumen of the valve. On section it has the appearance of a fibroma.

The heart is enlarged. It measures over 12 cm. for the left ventricle, and the right ventricle 10 cm. There is a thickening of the aortic valve, but no deformity. There is also myocarditis of the columnæ carneæ of the left ventricle, and most interesting of all is the very marked atheromatous place in the mitral valves, and a few at the beginning of the aorta. The only clinical record is the fact that there was a mitral systolic murmur.

In the left chest the lung was negative, except that the pleura immediately over the apex was markedly thickened. The pleura was much thickened and there were white scars on the pleural surface of the same lung, but the lung substance was entirely negative. The apex of the right lung is quite firm, just as firm as in pneumonia. I have not been able to find anything like tuberculosis in it but it is perfectly solid, and seems to be an old unresolved pneumonia. The pleura was not adherent to the apex, and the lower part of the lungs was normal. In the right pleural cavity, in the lower half of it, laterally and posteriorly and adhering to the diaphragm below, was a bulging mass covered by a yellowish membrane resembling very much the inside of the aorta, calcareous in consistency in many places; with pin point nodules which grated under the finger, and slightly fluctuating on pressure. There was nothing abnormal in the appearance of the ribs on that side of the chest. The covering was so firm that fluctuation was quite obscure. On cutting through it a thick greenish-black fluid oozed through the opening, and on cutting into it more deeply I found this mass. It has a clayey appearance; it is brittle like a piece of blue earth; it has no odor whatever, and the under surface of this is the part that was projecting toward the pleural cavity. I think this clay-like material was between the two surfaces of thickened pleura. I would suggest that an old empyema was the disease leading to the conditions found. The ribs were sufficiently soft to allow my cutting through them with an ordinary morgue knife.

The stomach is not specially interesting. The gall bladder contained thirty-eight small gall stones. The kidneys were both quite small, and the markings of the cortex almost absent, glomeruli distinct, proportion of pyramids being 1 to 5. Spleen small in size, firm in consistency; shows nothing in cut section but its surface had a corrugated, alligator skin appearance, and shows a number of pin-head size, white patches. The liver in places was a cloudy gray color, with entire absence of markings of the lobules around the periphery of the convexity; distinct nutmeg appearance is very sharply defined.

Uterine Flatus.—According to the *Medical Press and Circular* July 26, an interesting instance of "phantom tumor" of the uterus due to tympanitis of that organ, has been reported by Dr. Lichtenstein, of Liegnitz. On account of a chronic metritis, a patient was successfully treated by tamponment with iodoform gauze. A considerable time afterward she suffered from violent pains in the abdomen. On examination the abdomen was found much distended, and the uterus three finger-breadths above the umbilicus. On examining with the sound it passed into a large empty cavity, and air escaped out of the uterus with a distinct pop. The patient was frequently troubled in this way, the uterine tympany always coming on when the stomach or bowels were disordered. A few days after the attack described there was still pain at the side of the uterus. Massage and rhubarb and charcoal still further improved the condition.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

PER ANNUM, IN ADVANCE $5.00
SINGLE COPIES . . . . . 10 CENTS.

Subscriptions may begin at any time and be sent to

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W. H. LOWDERMILK & CO., WASHINGTON AGENT.

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SATURDAY, AUGUST 24, 1895.

PATHOGENY OF DERMOID CYSTS.

In *L'Union Médicale*, July 13, ult., is an excellent article by M. PIERRE DELBET, the Parisian surgeon, giving a resumé of the pathogeny of heterotopic tumors (dermoid cysts), which is abstracted from the large work on clinical and operative surgery by PROFESSOR LE DENTU and the same author. The oldest theory seems to be that of GEOFFREY SAINT-HILAIRE—that of diplogenesis by inclusion. This author arranged these tumors in a long series, beginning with the most simple forms, as those of the eyebrow, and going through the more complex varieties in the ovary and sacro-coccygeal region, and ending with parasitic and autositic monsters. In other words, he believed that simple dermoid cysts are to be considered as the "prodigiously incompletely developed" remains of a primitively distinct individual. This theory was strongly combated by LEBERT and BROCA. The latter pointed out that all dermoid cysts do not contain authentic fetal *débris*, while others contain too much,—as those with 300 teeth, etc.

Again, it is difficult to comprehend how one embryo can penetrate the abdomen of another, to lodge, for instance, in the ovary. LEBERT has shown that it is not rare to find dermoids in both ovaries, which, if we adhere to SAINT-HILAIRE'S theory, necessitates believing that two distinct embryos have penetrated a third. "It takes," says LANNELONGUE, "a great effort of the imagination and much good faith to recognize the representative of a distinct individual in a simple dermoid, a simple small sac formed by the skin, and often without papillæ or sudoriparous glands." This theory, however, offers the only satisfactory explanation of these tumors of the jaws, the sacro-coccygeal region and the scrotum where we find fetal *débris*.

LEBERT, in his theory of plastic heterotopics, has taken a diametrically opposite stand to that of SAINT-HILAIRE. He compares dermoids with other neoplasms and admits their autogenous and spontaneous formation. They develop by virtue of "a particular aberration of nutrition." This author did not extend his theory to the more complicated forms and, as DELBET remarks, it is not worthy of discussion.

The theory of inclosure of REMAK and VERNEUIL supposes that a part of the integument is nipped off during growth and buried in the surrounding tissues where it continues to develop. This theory readily explains the formation of simple cysts; moreover, these are always observed in regions with a complicated development—around the branchial clefts, orbits, in the sternal, abdominal and perineal regions, where the ventral and dorsal plates fuse. It may be objected that the structure of these cyst-walls is not the same as that of the skin, for the papillæ and sweat-glands are generally wanting; but these two structures are precisely those parts of the external tegument which are the last to appear. This hypothesis is utterly inadequate to solve the problems of the more complex tumors.

DELBET dismisses the theory of extra-uterine pregnancy, which presumes that these tumors are the result of extra-uterine fetation, with the remark that it will hardly answer for those in the eyebrow and the testicle, and, moreover, it does not suffice for those in the ovary which are to be seen in the newly-born and in virgins.

BARD has proposed a peculiarly unique theory, that of "nodal cells." This author is a great partisan of the absolute nature of the cells; but this must evidently be primitive. The ovule and the first few cells developed from it have the property of giving rise to daughter cells, differing from the mother-cell and from each other. These first cells must, then, be extremely complex, for they may give rise to the most diverse tissues. These are the cells which he calls nodal cells. With increasing stages of development these cells become less complex and finally they become fixed and incapable of producing cells differing in character from themselves. But, according to BARD, some of these nodal cells may persist in the adult tissues and it is the proliferation of these cells which forms dermoid cysts. DELBET remarks that while the contemplation of this theory affords a certain sense of satisfaction, the presence of these nodal cells in adult tissues is absolutely undemonstrable.

The theory of parthenogenesis next claims attention. This, as is generally known, is the develop-

ment of an embryo from the ovule without the intervention of the male element. This form of asexual generation has been shown in some of the lower animals (parthenopinea) where it produces normal individuals. BUFFON and SAINT-HILAIRE believed that possibly this might occur accidentally in the higher animals and give rise to rudimentary monstrous individuals.

REPIN and MATTHIAS DUVAL attributed the formation of ovarian dermoid cysts to parthenogenesis. The former author concludes that all dermoid ovarian cysts contain vestiges of organs and that they represent imperfect beings which can only be of ovarian origin. The possibility of segmentation of a non-fecundated egg has already been shown. DUVAL says we may even say that parthenogenetic segmentation is an ordinary, almost normal, process, but it is quickly arrested by fatty degeneration and does not proceed as far as the formation of a blastoderm, much less that of organs however rudimentary. STEINLIN has seen a very young dermoid, the size of a hemp seed, in the interior of a Gräafian follicle. While this parthenogenetic origin is not directly demonstrated it is very likely. It has two facts in its favor —the frequent segmentation of non-fecundated ovules and the intra-follicular seat of these cysts in their beginning.

DELBET sums up the evidence as follows: the widely different characters which dermoid cysts present and the nearly constant relation between their location and their degree of complexity lead us to believe that they are not of the same nature and are due to different pathogenic conditions. It is very probable that the simple dermoids are produced by inclosure, while the complex cysts, containing fetal *débris*, have two different pathogenic causes according to their situation—first, those which we may call external, in the jaws, sacro-coccygeal, perineal and scrotal regions, are due to diplogenesis; they are double monsters, joined to their hosts like parasites; these double monsters are considered, since the researches of FOL, to be due to polyspermia, that is, the penetration of several spermatozoa into the same ovule, in other words, diplogenesis is uniovular. Second, the complex tumors which we may call visceral, those of the ovary or testicle, are, on the contrary, very probably due to parthenogenesis.

Is this theory satisfactory? Some details are still obscure, especially those of the mediastinum. Most of these tumors are simple cysts which may be explained by inclusions, formed at the expense of the front gut or by invagination of the bronchial tree; but there are complex cysts, also, such as that reported by GORDON,[1] which contained bones and seven teeth. The causes of this almost unique case are still unknown.

[1] Med. Chir. Trans., XIII, p. 13.

SIMULATION OF INSANITY.

The case reported in the daily press, of a leading German actor, who, after repeated impersonations of the character of a lunatic became himself insane, is one of some psychologic and medico-legal interest. It is not altogether unique; the same story has been told before, and a somewhat parallel case in this country has been published recently, but it is worthy of attention as evidence that continuous dwelling on, and practical adoption of, insane acts and ideas, even though with full consciousness of their abnormal nature, has a naturally bad effect upon the mental health. It is probable, it is true, that most of those who thus succumb to insanity in this way, were already somewhat predisposed to it, but absolute mental equipoise can be claimed by no one, and the danger is not to be disregarded even by those who are best equipped and fortified mentally.

In a medico-legal point of view it has some importance as bearing on the question of simulation. Some high authorities, among whom we may count SCHUELE and SANDER, assert that protracted simulation is itself pathologic, or, at least, that it becomes so after long continuance. Such instances as the one referred to would seem to support this view, and it has in its favor the well-known psychologic phenomenon expressed in the common saying that habit becomes a second nature. The actor who tries to realize his conception of the character he represents, is moreover, in far less danger than the man who for a purpose endeavors to continually act as a lunatic. His conception may be an imperfect one and his attempt clumsy in execution, but however this may be, he runs a risk of sooner or later making it natural enough if he persists.

On the other hand, actual simulation of insanity does not exclude the possibility of co- and preëxisting mental disease. This has been repeatedly demonstrated, notably by KIERNAN, HUGHES and others in this country, as well as abroad, and marked cases are within the experience and recollection of most observing asylum physicians of long experience. This point is one that ought to be well considered by jurists, and, with the other, may not infrequently have important bearings in cases before the courts.

THE NEW ILLINOIS PHARMACY LAW.

Illinois has what is practically a new pharmacy law. It purports to be only the old one amended, but the differences are more numerous and striking than the samenesses. The indications are strong that it was prepared and passed for the benefit of the pharmaceutical profession rather than the general public. The latter will undoubtedly indirectly gain by it on some points, but only incidentally, and not without loss. For what good it contains, the Governor

apparently did not care to veto it, but let it become a law without his signature.

Its scope can be somewhat judged of from the section headings, which are as follows: "None but registered pharmacists to dispense, etc.; Who may be employed in drug store; Meaning of the words "drug store" or "pharmacy;" Registered pharmacists; Who may be registered pharmacists; Assistant registered pharmacist—who may be; Permits to persons in villages; Duty of registered pharmacist; Annual registration—fee—certificate to be posted; Board of pharmacy—how appointed; Organization of board—duties of officer—place of meetings; Salary of officers—report; Label with name of article—penalty; False representation to procure registration—penalty; Adulteration—penalty for—expert—board to prosecute; Suits for penalties."

To begin with, this law seeks by multiplying descriptive terms and incorporating a definition to specifically cover, not only pharmacies and stores, but also dispensaries, "drug stores," apothecary shops and any "store, shop or other place of business where drugs, medicines or poisons are compounded, dispensed or sold at retail." However, the board of pharmacy is authorized, in its discretion, to issue permits to persons, firms, or corporations engaged in business in villages or other localities, empowering them to sell the usual domestic remedies and proprietary medicines under such restrictions as the board may deem proper, such permits to specifically state just what the holders thereof are allowed to sell.

But nothing in this act is to prevent any person or persons owning a drug store or pharmacy who shall employ and place in active and personal charge of the same, a registered pharmacist, nor interfere with the exclusively wholesale business of any "wholesale druggist," whereas it was before of "any dealers."

Neither is it, any more than did the old law, to apply to or in any manner interfere with the "practice" of any physician or prevent him from supplying to his patients such articles as may seem to him proper, substituting, as above, the word "practice" for "business." It also omits the proviso in this connection of the former act "that no part of this section shall be so construed as to give the right to any physician to furnish any intoxicating liquor as a beverage, on prescription or otherwise."

Not only must appointees to the board of pharmacy be such "competent registered pharmacists in the State, as have had ten years' practical experience in the dispensing of physicians' prescriptions," as heretofore, but they must be persons "who are actively engaged in the practice of their profession."

Other changes require that registered pharmacists must be 21 years of age; prescribe certain qualifications for them; make the original registration fee in all cases $5 and the subsequent annual fee not to exceed $1.50; fix the cost of "permits" at $1 in the first instance and 50 cents a year thereafter; impose upon registered pharmacists who take into their employ apprentices, to report to the board such facts regarding their schooling and preliminary qualifications as the board may require; empower the board of pharmacy to refuse registration or suspend the certificates of registered pharmacists, or assistant pharmacists, who are proved to be so addicted to the excessive use of stimulants or narcotics as to render them unsafe to handle or sell drugs, medicines and poisons; require the conspicuous exposure of certificates, and display over the door or department the name of the registered pharmacist who conducts the drug store or pharmacy.

What concerns the public yet more, and is to be deplored, is the change with respect to the selling of poisons. The new law on this point, in full is: "No person shall sell at retail any drug, medicine or poison without affixing to the box, bottle, vessel or package containing the same a label bearing the name of the article distinctly shown, with the name and place of business of the registered pharmacist from whom the article was obtained: *Provided*, That nothing herein contained shall apply to the dispensing of physicians' prescriptions. Any person failing to comply with the requirements of this section shall be liable to a penalty of $5 for each and every such offense."

This, it will be readily seen, opens the gates wide for careless and unscrupulous dispensers and criminal and suicidally-disposed purchasers—if it is not a broad invitation to crime and self-destruction. What protection is there in a registered pharmacist's name affixed as prescribed, when he is neither required to exercise caution in making sales of deadly drugs, nor to mark same "poison?" The old law was infinitely better in this respect. It required all this and the distinctly marking of poisons as such, beside forbidding the delivery of the commonly recognized poisons to any person under 15 years of age, or to any person, without the seller satisfying himself that such poison was to be used for a legitimate purpose, although the penalty for a violation thereof was fixed at the ridiculously small sum of $5 for each offense.

Comparison with the Wisconsin Legislature at its last session, when it revised the law of that State on this subject, is to the decided credit of that State. It requires paris green to be marked "Paris Green, Poison," and has added to the list of specially proscribed articles: oil of savin, oil of tansy, oil of cloves, phosphorus, sulphuric ether, or any mixture containing any of the specified poisons or of any combination of them sufficient to kill a person taking the same. When lawfully sold, a label bearing the name "Poison" distinctly shown, together with

the name and place of business of the seller must be affixed to the box, bottle, vessel or package containing the same, and to the wrapper or cover thereof. "And every person who shall sell or retail any such poison shall keep in his place of business a book, in which shall be entered an accurate record of the sale of all poisons; such record shall contain the amount purchased, the date, for what purpose purchased and the buyer's name and address. This record shall be at all times, during ordinary business hours, subject to the inspection of the district attorney of the county in which such store is located, or of any authorized agent of said board. Any person failing or neglecting to comply with any of the provisions of this section shall be guilty of a misdemeanor and upon conviction be punished by a fine not exceeding $50 nor less than $5."

When the Illinois Legislature meets again, it should certainly "amend" the pharmacy law once more, and restore it in this particular to what it was before, if it can not be induced to emulate the example of the law-makers of an adjoining State and throw still stronger safeguards around human life.

THE DUTY OF URGENT EXIGENCY.

The railway companies are finding themselves held to the strictest accountability in their humane or politic—as different persons consider it—arrangements to furnish their unfortunate employes with medical attendance. In the case of the Ohio & Mississippi Railway Company v. Early, decided April 12, 1895, the Supreme Court of Indiana reverses a judgment for damages obtained in the circuit court. It says that while a railroad company is under no legal obligation to furnish an employe, who may receive injuries while engaged in the service of the company, with medical or surgical assistance, yet where a day laborer or employe has, by unforeseen accident to him while engaged in the line of his duty as such employe, been rendered helpless, the dictates of humanity, duty, and fair dealing would seem to demand that it should furnish medical assistance. This duty could not rest upon the master in ordinary cases, in the absence of a contract to do so, but should rest upon him only in extraordinary cases, where immediate medical or surgical assistance is imperatively required to save life, or avoid further serious bodily injury.

This duty on the railroad company only arises out of strict necessity and urgent exigency, where immediate attention thereto is demanded in order to save life or prevent great injury. The duty arises with the emergency, and with it expires. This duty does not clothe the master with the power to dictate to the injured servant what particular physician or surgeon shall treat him, nor does it deprive such injured servant of the right of making a conscious and deliberate choice, while in the possession of his mental faculties, of the time, place and person, and by whom and when and where he will be treated. And if the master, yielding to such right complies with the request to be so treated, and at the same time promptly places before him ample medical and surgical assistance, ready to be rendered to meet the emergency, which he declines, then such emergency has ceased, and the duty with it; and if the choice thus made, in the conscious exercise of his own free will, turns out to be a mistake, the company is not liable, because the duty ceased with the expiration of the emergency.

ASSOCIATIONS AND THEIR JOURNALS.

"The journal is the Association," says DR. THOMAS M. DOLAN, editor of the *Provincial*, speaking of the *British Medical*. He ascribes the wonderful growth of the British Association during the past twenty-five years largely to its journal, and says: "When we come to analyze the work of the Association, and what it is doing for the profession, we are more than ever convinced that without the journal the Association would be a very powerless machine, and that were the journal to cease, the Association would rapidly diminish. The influence of the press has, during the last twenty-five years, been a constantly increasing one, and we need not wonder that the medical press has shared in the general benefits. The *British Medical Journal* has been ably edited. Still more, MR. FOWKE has been able to secure for it that which brings in grist to the mill—viz., advertisements. Without the journal you can hardly imagine an Association. What does the journal do? It brings all the members into communication; it publishes letters on every conceivable kind of subject; it lays down the law on ethics; it publishes long reports of the scientific committees; and it also gives the results of the annual meetings, the papers read furnishing material for the year. Its editorials and all that comes under the "we" are, we believe, alone paid for, and at a very cheap rate. The *British Medical Journal*, then, is the key-stone of the Association, and we hope it will flourish."

It seems hardly necessary to comment upon the foregoing, or to seek to apply its obvious lesson to the AMERICAN MEDICAL ASSOCIATION and its JOURNAL. We will only observe that the "grist to the mill" of the current issue of the *British Medical* is eighty-four pages of well-paid advertisements—netting more than enough, probably, to cover the entire cost of the number.

LET THE GOOD WORK GO ON.—In the last six weeks nearly two hundred Chicago physicians, have added their names to the subscription list of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Many of them have joined the ASSOCIATION, and others have signified their intention. The physicians of Chicago know a good thing when they see it.

CORRESPONDENCE.

Letters to My Hospital Internes, Past and Present.

By Casey A. Wood, M.D., of Chicago.

III.

Utrecht, July 22, 1895.

No better situation could have been chosen for the largest Dutch ophthalmic hospital than Utrecht. The city is about the geographical center of Holland and is the seat of a university founded in 1636 whose medical department is attended by a large number of students. Ophthalmology, as well as other branches of medicine, owes much to the Utrecht school.

It was the celebrated treatise of Donders on physiologic optics (translated into English) that opened the way for a clear understanding of the refraction of the ocular media, the mode of accommodation and the action of the extrinsic ocular muscles. All these and many other important matters have been elucidated by his worthy successor, Prof. H. Snellen. Two years ago the building of the new ophthalmic hospital (*Nederlandsch Gasthuis voor ooglijders 49 Bleijenburgstraat*, seventy beds with over five thousand outdoor patients and five hundred operations yearly—daily clinic 8 to 12, operations at 11) was opened. This is a very handsome eye hospital with wide corridors, high ceilings and cheerful indoor walks for the patients. It is built so that there is plenty of light where a good illumination is required, while convalescents can go about in covered ways suited to their condition. In this building Snellen gives the regular university courses for students. Here, too, other teaching is done by the Professor's sons, Drs. H. J. and W. Snellen and the other assistants. All the operators follow the Professor's example in making the corneal incision (in cataract extraction) extend slightly underneath the conjunctiva. Snellen thinks that if this is done so as to avoid the sclera, that no bleeding will take place into the anterior chamber and so render the subsequent steps of the operation uncertain and difficult. This is, as you know, the chief objection to the conjunctival flaps. Its chief advantage is that such a wound heals in a few hours and binds the edges of the cornea closely together. When he does an iridectomy, as part of cataract removal, he favors the preliminary operation and performs it some six weeks before. When there is increased intra-ocular tension, a sluggish pupil, posterior synechiæ or an unripe lens he would advise it. At the time of the operation a 4 per cent. solution of pilocarpin is instilled, instead of eserin which is often very painful and irritating. After dressing the eye, subsequent to any operation where the eyeball has been opened, a thin oval aluminum shield (about 4 x 3 inches) is placed over the ocular region and this is kept in place by adhesive straps. The patient is now carried to bed on a litter made of poles and side-pieces run through folds made in the under operating sheet. He is allowed to sit up the next day, when the lids are also opened for examination.

I was courteously allowed to examine a large number of cataract cases operated upon at various dates, and was greatly pleased with their appearance and the absence of complications. The Dutch people are notoriously clean and live in well-ventilated houses. I was consequently not surprised to learn that they are pretty free of diseases of the lids and conjunctiva. Dr. Snellen informed me that in Utrecht, with a population of 100,000, he sees barely 6 or 7 cases of trachoma yearly. On the other hand, among members of the large Jewish colony in Amsterdam (most of whom work in factories and live in dirty, ill-ventilated tenements) granular lids has been endemic for over a century, and has apparently resisted all attempts to eradicate it.

Professor Snellen is at present engaged in perfecting the ophthalmometer and believes that the University optician (office in the Physiologie Institute) has succeeded in grinding the prisms and other lenses connected with the instrument with a precision not attained by Parisians or other workers. He also showed me a new scheme for testing the color vision of railway employes. This consists, essentially of illuminated colored discs of glass which are exposed for a second or less, to the view of the person under examination, by means of the rubber ball and shutter used in the ordinary photographic camera. The size of the disc and its distance from the eye correspond to the visual angle for which the Snellen test types are arranged. The short exposure and artificially illuminated test color make it more difficult for the color-blind person to escape detection than when the Holgren wools are alone employed. Moreover, the Snellen apparatus can be used at night time and the illumination does not vary, as does that of any other method that depends upon daylight.

It seems to me that at least a portion of the post-graduate student's stay in Europe might profitably be spent in one or more of the smaller university towns like Utrecht. He would in this way escape the over-crowded clinics of larger cities like Vienna, and be able to get nearer both patients and teachers. It is true that in the case of Utrecht, for example, the average student does not know and would not care to give time to the study of Dutch, but since both Professor Snellen and his assistants speak admirable English, and many of the patients understand a little German, this drawback is not a serious one. I think, also, that it is a mistake for the student of German medicine to give *all* his time to Berlin and Vienna, where he often has to take his chances with the members of a large class in getting partial views of operations between the heads and over the shoulders of numerous assistants who crowd about the operating table. In smaller places, like Prague, Königsberg, Göttingen, Kiel, Buda-Pesth, etc., the American student will generally have the advantage of personal instruction from as good teachers as he will find in Vienna, and will secure advantages and opportunities which he can not hope for even in the much-vaunted and more costly courses of the Austrian capital.

Berlin, July 30, 1895.

There have been remarkably few changes in the *personnel* of the Berlin medical faculty during the past eight years. It would require more space than I have at my disposal even to mention all the celebrities at whose feet students, both graduate and undergraduate, might sit at this great teaching center. I renewed my acquaintance with so many of them as I could find in town. This is, however, the time of the midsummer vacation which every North German keeps who can.

Virchow is still working away, pretty much as usual. His celebrated early morning (*Pathologisches Institut, Charité*, Mon., Wed. and Sat., 8 to 10 A.M) demonstrations in pathologic anatomy and microscopy is just ended but will begin again, like all the other university classes, with the winter semester about the middle of October and last until March. Virchow's former assistant, now Professor Israël—well known friend of the American—also gives courses on pathology in the same place.

Berlin, when the convenience of the post-graduate student and the opportunities for study are concerned, is, to my mind, superior to London, while equivalent courses are much less expensive than those of Vienna. In the latter city every thing medical practically centers about the large *Allgemeines Frankenhaus;* there is no running about to distant hospitals or lecture rooms for instruction or to witness operations. Both the regular University lectures and the other Vienna

courses (which go on month after month with little change) on the same or allied subjects, are generally so arranged that one can constantly pursue even a single line of study without much conflict of lecture hours. The proportion of teachers who speak English is probably greater in Vienna than in either Paris or Berlin.

Although Vienna is perhaps the best place for the student who has but a short time for study abroad, yet Berlin and other German cities occasionally offer superior advantages in most departments of medicine to the physician or surgeon who can remain for a year or two. A prolonged stay will enable him to learn the language thoroughly and he will be better able to mentally digest what he sees and hears. He will also cultivate the acquaintance of teachers (a numerous class here) who follow their particular studies with an eye single to the service of science—not always casting furtive glances at the pocket books of the class before them. The University issues an admirable calendar (to be had at every book store) and time table of lectures—a pamphlet that will be appreciated by those who have studied in London and Paris. Armed with this, and having chosen a centrally located lodging somewhere near the *Charité*, he can profitably set to work at almost any time. Berlin should, however, be avoided by the new arrival during the months of July, August and September unless he has previously arranged to act as *locum tenens* for some assistant or chief of clinic who has gone for the usual holiday. Moreover, unless he wishes to follow some special advanced course or courses it would be wise for him to begin at the commencement of one of the semesters (the next begins October 26), or one of the *Ferien curse*—vacation courses—for practicing physicians. The latter can not be too highly praised and should be attended by every post-graduate student who can conveniently reach Berlin toward the end of September. Full information regarding each course with the address of the clinic where it is held, name of teacher, honorarium, etc., is given in an announcement to be found in most medical bookstores or at the "Langenbeck house" (*10 Ziegelstrausse*).

The lecturers and instructors in the *Ferien* courses are not confined to the professors and *privat docenten* of the University—although these are in the majority—so that several competent and popular instructors outside the sacred precincts are afforded an opportunity to display their merits.

As many of these courses are limited, an early application is usually desirable before September 30, when certain of them begin. They all come to an end on October 26, each single course lasting four weeks. The fees are usually 40 marks ($10) but range from 20 marks—*e.g.*, Westphal's class in mental diseases, limited to five, twice a week—to 150 marks for Baginsky's practical course in otology, limited to three, and held daily. No department or departmental subsection of medicine or surgery seems to be forgotten in this scheme. For instance, there are thirteen courses, no two of which cover the same ground, in bacteriology, normal and pathologic anatomy; seventeen in internal medicine; eleven on the eye and ear; eight on gynecology and obstetrics; two on physiology; six on medical jurisprudence, toxicology and hygiene; eight on nervous diseases and electro-therapy; five on general surgery; fourteen on diseases of the ear, nose and throat; seven on syphilis, skin diseases and diseases of the genito-urinary organs, and one on medical photography.

Berlin has for us rather a melancholy interest in presenting most of the sanitary advantages that our large towns lack, and but few hygienic shortcomings, of which American cities furnish such conspicuous examples. Every medical visitor should inspect as part of his studies, the extensive municipal slaughter houses and their laboratories, where *every* animal is examined, macro- and microscopically before its flesh is used for food. And woe unto the butcher who dares expose for sale a carcass lacking the proper sign of examination! He should also inquire into the system by which a *daily* and thorough (I had almost said non-political) examination is made of the milk sold within the city limits, and by which a careful search is instituted for adulterations in other forms of food. These matters are fully gone into by Meyer in a little book (*Das Gesetz betreffend den Verkehr mit Nahrungsmitteln*) published by Springer in Berlin. During this study of municipal hygiene, he will find that smallpox is practically unknown in Berlin and that everybody is, without exception, vaccinated. Finally, not to further expand this letter, he will discover that the sewage of the town does not pollute the Sprey, but is pumped out to, and spread upon a municipal farm of some 1,200 acres where it is used as a fertilizer. This estate is thus made to pay, over and above current expenses, more than 3 per cent. on the original outlay for the land.

The Code—Once More.

CHICAGO, ILL., Aug. 1, 1895.

To the Editor:—Will you grant me a little space to consider three questions which in the midst of all the present discussion upon the Code of Ethics, I do not remember to have seen presented in print in exactly the same way they have presented themselves to me. A clear, precise answer, devoid of all eloquent circumlocution, to each one of them will, I believe, go far toward establishing the value of the Code in the minds of many doubters in the profession. These questions stated briefly are as follows:

1. Is any written Code of Ethics compatible with free competition?

2. Is any code which does not assume the form of law with penalties attached, likely to have more than a poetic influence upon competing men?

3. Is the medical profession free from the "commercialism" so much contemned by the Code?

Upon principle and policy I will confess that I am a rigid code man, but I nevertheless fail to see the advantage of a written code of ethics for the medical profession or any competitive avocation and I am without hope of such a code ever being universally practiced though it may be universally admired. The weakness of the Code in the matter of personal competition and want of provision for appropriate penalties, I can best show by a couple of illustrations:

A young man, industrious and well-trained, honorable and talented, graduates at the head of his class and then begins the practice of medicine upon a limited capital. He expends a large part of his surplus cash fitting up his office and otherwise equipping himself for his life work. Like all beginners, he has but few patients, and these far between. Some morning while wearily waiting in his office, an individual walks in to consult him in regard to a small tumor. The young physician recognizes the nature of the growth, is fully cognizant of the ability and willingness of the individual to pay him a handsome fee for removing it, and has furthermore, every confidence in his own surgical skill gained by hospital experience. The patient, however, suddenly informs him that he has just come from Dr. X, whom the young man knows by repute and personal knowledge to be a man of inferior attainments. He furthermore learns that Dr. X has been in charge of the case, and for the last three months has been endeavoring to remove the tumor with all sorts of internal and external medication. Dr. X. being a regular physician, a confrère and personal acquaintance as well as a near neighbor, the young man at once thinks of the Code of Ethics. He also thinks of his own sore need of money to meet his coming rent, and of this rare opportunity afforded him to reveal his superior skill and experience. To send the patient back to Dr. X, would not bene-

fit the patient but would merely turn him away to some other physician. It would moreover, probably bring down upon his own head all the jealous wrath and backbiting of an angry rival—a result which he is likely to bring about whatever course he may pursue.

What, Mr. Editor, is the young man to do in the light of the Code of Ethics? One specific answer in such instances which are so common, is worth a volume of general platitudes.

Permit me to relate an actual occurrence, for these are the cases that are troubling many honorable men in the profession who admire the Code and yet seem strangely opposed to it:

A young friend of mine was treating satisfactorily several members of a well-to-do family. One of the daughters of this family suffered from excessive dysmenorrhea, the attacks of which were so severe as to resemble hysteria. A consultation was proposed and a popular gynecologist summoned. Glancing at the patient, the latter at first declined to make the examination, saying that the case was merely one of nervous dysmenorrhea so frequent among young girls and that marriage would relieve her of all her trouble. The family physician, however, insisted upon a physical examination, stating that the family expected it. It was made. The consultant still declared that nothing was the matter except general neurasthenia which was to be treated upon general principles, and with electricity to the spine, notwithstanding the fact that he had been told the girl had undergone such treatment for about two years at the hands of one of the best neurologists in the city. This was in the spring of the year. The gynecologist went to Europe, and the young physician not having made an examination himself, carried out the consultant's suggestions to the letter. There was not a particle of improvement, but rather the reverse. In the fall, the gynecologist returned and the attending physician after much earnest persuasion got the patient to go and see him. She did so, but note the result! The great man now said she had "inflammation of the womb," that she always had had it and that it was the inflammation which had given her all the trouble in the spring and while he was away. She was told to visit his office (the gynecologist's office!) once or twice a week to receive local applications, for which she paid him $5 a visit. To complete the story, she went regularly, still continues to go, so far as I know, though much dissatisfied with the result obtained, as she seems but little better than she always was.

The family physician who graduated with intense enthusiasm for the Code, told me he was astounded at two things: first, that the gynecologist whom he had often heard speak glowingly and eloquently before medical audiences in behalf of the grand Code of Ethics, should have so ignored his rights; and second, that he should have played him so false as to recommend a line of treatment in the spring so utterly at variance with the requirements of the case. The family physician being still in attendance is asked all sorts of questions in regard to the gynecologist's sudden change of opinion, line of treatment, results obtained, etc. To preserve his own credit and to act up to the spirit of the Code how, Mr. Editor, should the attending physician reply to these questions?

A simple answer in such a dilemma is worth a dozen generalities. I wish space was permitted me to cite from actual occurrences even more glaring than these; and I furthermore wish that the valuable space of our better journals now filled with "sweet talk" and "platitudinous nonsense" about the grand old Code were used to report specific instances of flagrant misdemeanors. We would then secure some perceptible light upon many a dark problem haunting the minds of honest would-be high code men.

Mr. Editor, when a man's living is at stake, it is not in the power of human nature for him to make a martyr of himself. One may be persuaded at times to sacrifice one's personal ambition for an ideal principle, if by so doing he does not cause himself or family to starve; but it is perfectly useless to talk to a man about declining to receive certain patients when he is dependent upon these patients for his daily sustenance. It is simply Utopian. Competition exists in the practice of medicine as in every other walk of life. Endow a man with a life competency and he may rise above the spirit of competition except as a means of personal gratification. He may then live up to the letter of the Code or any other divine rule of conduct. On the other hand, while it may not be a glorious act of martyrdom, neither is it a form of dishonesty for a man to accept all that the world chances to send him and all that his superior talent and education entitle him to enjoy. The socialistic notion is a dream of the imagination; it is neither desirable nor practicable in this intensely human world of ours. It is not to be expected or commended in human nature to hide its light under a bushel. It is a fact, all too apparent, that the one hundred and forty medical colleges of our country turn out doctors of widely varying abilities. The spirit of the Code, if not the actual words, seem to require that every doctor should defer and bow to every other doctor, which as a matter of Chesterfieldian courtesy is all right, but as a matter of a competitive struggle for existence is simply impossible. The medical profession consists of *men* having all the various feelings, unequal talents and differing ambitions of *human beings*. The practice of medicine being almost universally the means of earning a livelihood is a matter of pure competition, and competitors in the very nature of the case can not afford to be self-sacrificing for one another.

It has been said by some of our rigid code friends that the preceding argument is an ancient one and in a few words amounts to this: because "men do not live up to an ethical, religious or even a legal ideal, therefore the ethical, religious or the legal law or ideal should be abolished." In reply, I must recall to our friends the fact that unanswered and unanswerable arguments, only, become ancient, otherwise they would cease to exist at all as arguments; and secondly, that ethical, religious and legal laws or ideals are totally free from the influences wrought by competition. To speak of ethical, religious and legal ideals in the same category as the medical code is a willful misconception or lamentable ignorance of them all. Ethics has to do only with a man's own conscience and is largely a matter of education. A disregard of ethics may injure the man himself but he has only himself to answer for it; when a disregard of an ethical question amounts to a positive injury to one's neighbor, the law steps in and takes charge of the question which has now ceased to be one of pure ethics. Law, however, knows that its ethical enactments must be enforced with appropriate penalties. A man may lie, if he wishes, to his neighbor and he may even become an habitual liar, which is unethical and may prove unprofitable, but at all events the man is free to do as he likes and from his particular point of view may even reason that it is right to lie. If he commits a forgery, however, he injures another beside himself and the law then takes charge of him and punishes him.

Ethical questions are all controversial. They range from questions of mere self-preservation to questions of heroism and martyrdom. A Hottentot's ethics differ from the ethics of the North American Indian. In all sincerity each will act in accordance with his own conscience. Two men and their families watch a burning house. A child belonging to neither of the men has been left in the house and it is positive death for either one of them to attempt to rescue it. One man says: "My family is dependent upon me. I will not risk my life"—(self-preservation); the other says: "I will try and save the child if I lose my own life." He rushes in and does lose his life—(heroism). The ethical question in the case of each man was answered by his own conscience. A man steals for his starving little ones at home; another lets them starve rather than steal. They both know it is wrong to steal, but their respective reasoning leads them to different results.

So illustration after illustration might be given to show that ethical questions are, as a rule, controversial, and are usually answered according to a man's *individual* conscience. Recognizing this fact, common law strives to eliminate the controversial element out of the ethical questions it takes in hand, by assigning penalties for their disregard. It says to both men who steal: "I care not what reasons you may have had for stealing, reasons perhaps conclusive to your own mind. Stealing is wrong and you must be punished for it." That is just where the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION is at fault. It is a mere code of ethics and is therefore controversial; on the other hand, it is not law and therefore without the force which law with its penalties usually exercises.

Religion is so absolutely a matter of private opinion and so utterly free from all shadow of human competition, that I marvel any rational being should have compared it and its teachings in any way with the practice of medicine. Jew and Gentile live most harmoniously together so far as their particular religious opinions are concerned, but may fight like the Killkenny cats when bartering over a piece of silk. I am ashamed that any one in this nineteenth century and

in this tolerant land should even so much as insinuate that religion and religious tenets enter as a part of the competitive scheme of life. Religion is a matter of the soul, and has to do with man's relation to his Creator. The nature of that relation may and does influence in one way or another the man's actions in life, but for those actions he is responsible only to his Creator from the *religious* standpoint. A Mohammedan with his dozen wives, a Jew denying the Messiahship of Christ, an Atheist and a Christian may buy and sell, practice medicine upon each other and do a thousand other things mutually needful in life, and yet never know one another's religious opinions.

Let us not lose sight of plain common sense in our discussions. The Code, therefore, while theoretically a most commendable set of rules, just as Plato's "Republic" and More's "Utopia" are theoretically admirable governments, is practically valueless because it can not overcome (nor would it be desirable for it to overcome) the worldly spirit of competition, and because it offers no appreciable detersive against its own infringements.

Why, Mr. Editor, it seems almost absurd that it should ever have been thought that such rules would be effective. Every organization that I know anything of, such as militia companies, literary societies, clubs and beneficiary bodies, impose fines for misdemeanors or delinquencies against their rules, and yet these delinquencies and misdemeanors, while involving more or less disgrace, do not involve a man's livelihood. On the other hand, the AMERICAN MEDICAL ASSOCIATION adopts a set of rules utterly devoid of all punitory provisions and then expects it to be effective against misdemeanors and delinquencies that are not only at times irresistibly tempting but, occasionally, seemingly necessary for a man to commit in making his living.

I verily believe, sir, in that as a profession we injure and belittle ourselves in the eyes of the people, with all this shallow, ineffective nonsense of the Code, and with the effort to set ourselves up as superhuman beings, too good for this terrestrial existence with its sharp competition and intense rivalry. I wonder that lawyers, statesmen and legislators, leaders of men and all those who have to do with men *en masse*, do not laugh at us more than they are in the habit of doing, for our refreshing gullibility in expecting laws without penalties attached to have any very profound or extensive influence.

Let me say emphatically right here, sir, that for one, at least, I disclaim all such slurs upon our great merchants, bankers and commercial houses as are insinuated in the cant frequently appearing in our journals to the effect that, as a profession, we are too good to stoop to commercialism and commercial methods. We do stoop to commercialism and when honorably done we need not be ashamed of it. We exchange or *barter*, if you like, our skill, learning and particular experience for a price. Our prices vary with our skill and reputation, just as the merchants' prices vary with the quality of their goods. We advertise too, and it can not be gainsaid. Our successful cases are our advertisements. College and hospital appointments are eagerly sought after by most reputable men for the advertisement such positions give them. We join social organizations and enter clubs, unions and all forms of corporate life for the advertisement we get therefrom. We solicit patronage by seeking for examinerships in insurance companies, railway offices, beneficiary unions and other associations. If we are specialists we are not averse to accepting office in special societies and even giving banquets and receptions to the medical profession in our own homes. As editors of reputable journals, we publish our names in full at the head of the editorial columns. Our libraries groan with the accumulated weight of books in which positively the only new thing is the author's name with a long string of self-laudatory honors attached. Perhaps 50 per cent. of our periodical literature is written for mere advertisement. Is it from the simple love of speechmaking and a self-sacrificing devotion to poor humanity that some of the best of us give lectures upon medical topics before Young Men's Christian Associations, popular institutes and other public assemblies? If we are rich enough to drive a team and keep a luxurously appointed office with an extra maid in attendance, do we not do so? Show me the doctor who, in dress, manner and mode of living does not endeavor to put himself in the best light (professional light, I mean) before the community, and I will show you a man who has ceased to be human.

And what is this all done for? Legitimate advertisement, call it by what other name you please. Let us not ostrich-like bide our heads in the sand and chuckle to ourselves that we are unlike other men. Let us, for our own credit's sake, at least, not try to parade around in the masks of angels, in the hope of making a shrewd world believe that we are something more than human.

No, sir! I, for one, most honestly believe and aver that doctors as a class are no better, no worse than any other class of men. Pray, who does not know that the entire commercial world has an unwritten code of ethics? The great and honorable merchants deal courteously, gentlemanly and diplomatically with one another as all men should do; they compete for customers in a legitimate manner; and they strive to surpass one another by availing themselves of their respective superior opportunities. They are charitable in their way just as we are in ours. They give of their wealth as we give of our skill. It is high time that we should cease the cant phrase and vulgar insinuation that we as a profession are something better than the commercial world. We are what we are, solely because we are the *men* we are. I believe if we acted less superciliously, and met the laity on their own footing, there would be less friction between hospital boards and medical attendants, between courts and experts, between public functionaries and physicians in public places.

Let us have done, then, with all this unbecoming, childish, self-laudatory, namby-pamby nonsense about the angelic qualities of the medical calling. It is a practical, very practical profession in a practical world among practical men. An unwritten code will always exist among medical gentlemen, just the same as an unwritten code exists among gentlemen in other walks of life. For the other fellows of the medical profession, as well as for the other fellows of the other avocations, the only code that will be of any avail at all will be the code that has some effective punishment provided against its infringement. AMERICUS VERITATIS.

BOOK NOTICES.

Gunshot Injuries. A New Edition of Sir T. Longmore's Work.—Gunshot Injuries; their History, Characteristic Features, Complications and General Treatment; with statistics concerning them as they have been met with in warfare. By SURGEON-GENERAL SIR T. LONGMORE (Retired) C.B., O.H.S., F.R.C.S., etc. Second edition. London and New York: Longmans, Green & Co.

Surgeon-General Longmore, although on the retired list of the Army, has not given up his active work on behalf of the medico-military profession. There has just been issued a second edition of his volume on gunshot injuries. The first, published in 1877, contained 686 pages; the second is a solid volume of 821 pages. In the intervening years, radical changes have been made in the firearms of military nations which will alter the character of the gunshot wounds of future wars and modify the relations which medical officers will bear to the fighting line; meanwhile, also, changes have taken place in methods of treatment. The object of the present volume is to give an account of these changes and to bring the information contained in the former edition on many other topics up to date. The reader will, however, find it a work of much difficulty to sift out the new matter, as it is scattered throughout the many sections and chapters in interpolated paragraphs and sentences and even in modifications of the sense of sentences that are found in the old edition. In fact, the whole work has evidently been rewritten with the utmost care.

In bringing up to date the many other topics to which he refers in his preface, the author has made free use of the third part of the "Surgical Volume of the History of the War of the Rebellion," which was issued subsequent to the publication of his first edition.

In Chapter 2, a paragraph is given to smokeless powder; a second to the special explosive, cordite, authorized in the British service for use with the Lee-Mitford rifle, and a third to the use of compressed air as an agent in the production of gunshot wounds. In Chapter 4, the article on red hot shot gives place to one on machine guns and another on "fougasses." The latter are stated to have been employed largely, under the misapplied name of "torpedoes," in the

defense of places during the War of the Rebellion in the United States. In Chapter 5, the leading features of the principal military small bore magazine rifles and their projectiles are described, including the Lebel, Mauser, Krag-Jorgensen, Berthier, Mannlicher and Lee-Mitford; and this chapter closes with a paragraph which constitutes the text of most of the new matter in the volume: "The alterations that have occurred during the last three or four years in military rifles and their projectiles, the reduction in caliber of the firearms, the introduction of compound projectiles and the use of new explosives in place of gunpowder, have led to extremely important changes in the general aspects of war, as well as in the characters of many of the wounds which are likely to be inflicted in the future at remote distances. So far as Europe is concerned the effects of the new weapons have only been observed, with a few accidental exceptions, experimentally; they have not happily been experienced in actual war. The reports which have been published regarding the results of their partial use during the civil war in Chili have been contradictory. But it is beyond question that the changes referred to have caused a very great increase in the velocity both of translation and rotation of the bullets, in their accuracy of flight over extended ranges, and in their penetrative capacity. The increase in hardness of the surfaces of the projectiles, at the same time the fact of their weight being sufficiently maintained by the core of heavy lead within, effect results which not only increase the power of penetration of these narrow missiles, but also enable them to maintain this power over distances at which the rifle bullets in previous use had parted with considerable portions of their energy. Another important consequence of the great reduction in the diameters of rifle projectiles, surgically regarded, is the fact that, with the narrowing, there has been a proportionate exclusion of air, and of all the irritant and morbific germs which air contains, from the openings and interior surfaces of wounds caused by them. When, therefore, the wounds are confined to some of the soft and yielding tissues of the human body, they become nearly analogous to subcutaneous wounds."

The various properties, as defined by experiment, of the small bore armored bullets are described. Their destructive energy up to 500 or 600 yards is in excess of that possessed by any rifle projectiles that have preceded them, while their penetrative energy up to 2,500 yards, and beyond, is such that no bodily structure is able to resist their passage. There is little difference in the amount of comminution of bone and general damage produced by them at short ranges and the .45 inch bullets in previous use, the main difference between them being that the destructive effects of the small bore bullets are met with at distances considerably beyond those at which they result from bullets of wider diameter. The damage done by the narrow bullets at medium ranges to the shafts of bones is always very great, but has been observed generally to be less than in wounds at similar ranges by old style bullets; while at very long ranges, at which a greater amount of velocity and higher penetrative power are preserved by the narrow bullets, the comminution and splintering are generally greater from the narrow than from the broader projectiles.

In discussing the conveyance of septic germs by bullets the experiments of Captain La Garde, U. S. Army, as published in the Report of the Surgeon-General for the year ending June 30, 1893, are cited, and a synopsis is given of the conclusions deduced from his experiments.

The survivals among patients with penetrating wounds of the chest will probably occur in a much larger proportion in future wars. The slight resistance that can be offered against the passage of the new bullets will cause perforating wounds of this region to be more common than hitherto; while the narrowness and other physical qualities of the bullets will render their effects less fatal by limiting the areas of the lesions inflicted by them. Penetrating wounds of the abdomen will also be more frequent; while the difficulties in the way of applying the remarkable improvements that have taken place in abdominal surgery in civil life, to military practice after important engagements in the field, will probably prevent any considerable reduction in the large ratio of mortality which has hitherto attended them.

Professor Longmore refers to the rarity of erysipelas in gunshot wounds since the use of antiseptics has been adopted. He speaks of the presence of pyogenic cocci in pyemia and of the special microörganisms and their septic products which give rise to hospital gangrene; but he doubts the connection of tetanus with a bacillus, considering the difficulties insuperable when endeavors are made to reconcile the agency of this reputed cause of tetanus with all the clinical conditions under which the disease has followed gunshot injury on different occasions in naval and military practice.

In the paragraph on examination by the finger, he has introduced a new sentence: "It seems hardly necessary to observe that when making an exploration of the kind in the field, where sources of impurity are so abundant, very strict care has to be taken to prevent the introduction of septic matters into the wound by the explorer's finger or by the fingers of assistants." A paragraph on antiseptic dressings, not found in the old edition, discusses the use of sublimate solutions, sublimate wool, iodoform and the double cyanid of mercury and zinc.

In the old edition, the chapter on inflammation began with the enunciation of the principle: "Every gunshot wound, the most trivial as well as the most severe and complicated, is naturally followed by inflammatory action." In the new work, inflammation is not recognized as an essential consequence of a gunshot wound. The following sentence does not appear in the new volume: "The amount of suppuration has been reduced by the greater attention which is now being generally given to hygienic arrangements and especially to cleanliness in the manipulating of wounds; but I fear the day is still far distant when suppuration will not be met with during the process of cure in a very large proportion of severe gunshot wounds."

In referring to the prevention of muscular contractions and stiffness of joints during the healing of wounds, the Continental practice of sending the patient to some of the thermal springs is favorably mentioned.

Lastly, in speaking of the 1:4 ratio of killed to wounded in battle, the following is inserted: "If we may judge from the experience gained down to the present time, such may be regarded as an approximate average of the proportion of killed to wounded likely to be met with in battles. It is generally surmised that the employment of small bore bullets will lead to the proportionate number of men killed in battle being lessened and that of the men wounded being increased, so far as regards rifle fire; but even if this surmise should prove to be correct, when the uncertainty which prevails regarding the probable effects of the new artillery fire is considered, it seems evident that the general ratio of killed to wounded among troops in wars of the future can not now be forecast with any approach to accuracy."

A German English Medical Thesaurus, or Treasure of Single and Compound Medical Words and Terms; with Dialogues, Idiomatic Phrases and Proverbs, etc., and German and English Indexes for Physicians and Students. By Rev. Henry Losch, M.D. Pp. 323, cl. Philadelphia, 1895. Published by the Author. Price $2.50.

This manual contains over twenty thousand words relating to medicine, and is distinguished by its conciseness in

definition and its simplicity in the arrangement of the vocabulary for rapid reference. The book is divided into three parts, of which the first is devoted to the systematization of simple and compound medical terms; the second, to hygienic, medical, surgical and domestic affairs; Part 3, consists of dialogues, idiomatic phrases and proverbs, a schedule of the termination of each declension, and a list of irregular verbs. Medical students will find much of value in this volume, and it should find a place upon the shelves of every reference library.

SOCIETY NEWS.

Southwestern Iowa Medical Association.—The semi-annual meeting of the Southwestern Iowa Medical Association was held in Red Oak, Iowa, August 15. Attendance sixty.—— The physicians of Douglas County, Kansas, met at Lawrence, Kan., August 10, and formed a society. The following officers were elected: President, W. S. Bunn; Vice President, J. I. Douthart; Secretary, H. Ernest.

Mississippi Valley Medical Association.—The secretary of this Association desires to announce that the railroad rates for the Detroit meeting September 3, 4, 5 and 6 will be one and one-third regular fare, on the certificate plan. In purchasing ticket to Detroit full fare will be paid. On request, the local ticket agent will furnish purchaser with certificate which will be handed to the secretary at Detroit. This certificate when signed and vised by the agent of the Central Traffic Association will entitle holder to a return ticket at one-third regular fare. FREDERICK C. WOODBURN, Secretary.

American Academy of Railway Surgeons.—The second annual meeting will be held in the parlors of the Auditorium Hotel, Chicago, Ill., on Wednesday, Thursday and Friday, Sept. 25, 26 and 27, 1895. Motto: "The higher the order of Railway Surgery, the greater the protection to the Employe, the Passenger and the Company." Officers: President, C. K. Cole, Chief Surgeon, Mont. Cent. R'y, Helena, Mont.; First Vice-President, C. M. Daniels, Chief Surgeon, W. N. Y. & P. R'y, Buffalo, N. Y.; Second Vice-President, W. H. Elliott, Chief Surgeon, Cent. R'y of Georgia, Savannah, Ga.; Secretary, Webb J. Kelly, Surgeon, Erie & Big Four R'ys, Galion, Ohio; Treasurer, C. B. Kibler, Surgeon, Erie R'y, Corry, Pa.; Editor, R. Harvey Reed, Consulting Surgeon, B. & O. R'y, and Surgeon, C. S. & H. R. R., Columbus, Ohio; Chairman of Executive Board, John E. Owens, Chief Surgeon. C. & N. W. R'y Chicago, Ill.; Chairman of Committee on Transportation, W. J. Galbraith, Chief Surgeon, U. P. R'y, Omaha, Neb.; Chairman of Committee on Arrangements, A. D. Bevan, Chief Surgeon, Iowa Central R'y, Chicago, Ill.

FIRST SESSION—WEDNESDAY.

Subject unannounced, R. D. Mussey, Chief Surgeon, C. H. & D. R'y, Cincinnati, Ohio.

Some of the Benefits to be derived from the Higher Order of Railway Surgery, W. J. Galbraith, Chief Surgeon, U. P. R'y, Omaha, Neb.

Subject unannounced, A. D. Bevan, Chief Surgeon, Iowa Cent. R'y, Chicago, Ill.

Subject unannounced, M. Cavana, Surgeon, N. Y. P. & O. R'y, Oneida, N. Y.

Subject unannounced, W. H. Buechner, Surgeon, Erie R'y, Cleveland, Ohio.

SECOND SESSION—WEDNESDAY.

President's Address, C. K. Cole, Chief Surgeon, Mont. Cent. R'y, Helena, Mont.

Report of Secretary. Treasurer and Standing Committees. Registration of Fellows and payment of dues. Consideration and disposal of applications for fellowship. Miscellaneous business.

THIRD SESSION—THURSDAY.

Subject unannounced, J. W. Perkins, Surgeon, U. P. R'y, Kansas City, Mo.

Fractures of the Forearm Complicated with Dislocation, E. Griswold, Surgeon, Erie R'y, Sharon, Pa.

Subject unannounced, Wm. T. Dalby, Ass't Surgeon, U. P. R'y, Salt Lake City, Utah.

Subject unannounced, F. H. Peck, Surgeon, N. Y. P. & O. R'y, Utica, N. Y.

FOURTH SESSION—THURSDAY.

Address on Medico-Legal Surgery, Hon. Tracy C. Becker, Buffalo, N. Y.

A Practical Way of Testing Railway Employes for Color Blindness, D. C. Bryant, Oculist, U. P. R'y, Omaha, Neb.

Traumatic Neurosis, Henry W. Coe, Surgeon, East Side R'y, Portland, Ore.

Verdicts Obtained Through Perjury, C. B. Kibler, Surgeon, N. Y. P. & O. R'y, Corry, Pa.

What Should Disqualify Applicants for Railway Service, John E. Owens, Chief Surgeon, C. & N.W. R'y, Chicago, Ill.

Personal Experience in Spinal Injuries, J. M. Pritchard, District Surgeon, C. & N. W. R'y, Manitowoc, Wis.

Intra-Venous Injection of Neutral Salt Solution in the Treatment of Desperate Injuries. Exhibition of Apparatus, C. B. Parker, Surgeon, L. S. & M. S. R'y, Cleveland, Ohio.

A Word on the Modern Use of the Terms Infection and Contagion, R. Harvey Reed, Consulting Surgeon, B. & O. R'y, Columbus, Ohio.

FIFTH SESSION—FRIDAY.

Railway Sanitation, W. M. Bullard, Ass't Surgeon, Mont. Cent. R'y, Wickes, Mont.

Sanitary Regulations Governing Railways, L. E. Lemen, Division Surgeon, U. P. R'y, Denver, Colo.

The Use of Gold Foil in Fractures of the Cranium and Resulting Hernia Cerebri, W. L. Estes, Chief Surgeon, L. V. R'y, S. Bethlehem, Pa.

SIXTH SESSION—FRIDAY.

Transportation of Injured Employes, F. H. Caldwell, Chief Surgeon, S. F. & W. R'y, Sanford, Fla.

The Use of Cocain in Minor Amputations, C. M. Daniels, Chief Surgeon, W. N. Y. & P. R'y, Buffalo, N. Y.

Concussion of the Brain, W. H. Elliott, Chief Surgeon, Ga. Cent. R'y, Savannah, Ga.

Wounds that Open the Knee-Joint—Treatment, C. D. Evans, Surgeon, U. P. and B. & M. R'y, Columbus, Neb.

Treatment of Wounds of Face and Scalp, Charles B. Fry, Surgeon, Big Four R'y, Mattoon, Ill.

Injuries of the Hands and Fingers, John McLean, Chief Surgeon, P. P. C. Co., Pullman, Ill.

How to Differentiate Between the Use of Heat and Cold in Railway Injuries, Wm. Mackie, Surgeon, C. M. & St. Paul R'y, Milwaukee, Wis.

Best Method of Obtaining the best possible Aseptic Condition during Operation done at places other than Hospitals, J. F. Reger, Surgeon, B. & O. R'y, Littleton, West Va.

SEVENTH SESSION—FRIDAY.

Selection of next place of meeting. Miscellaneous business. Introduction of officers elect. Adjournment.

The managers of the various railroads that have already reported, have very cordially agreed to furnish the necessary transportation to enable the Fellows of the Academy to attend the coming meeting. Those who need transportation will apply for same at once *through their proper officers.*

Very respectfully submitted,
W. J. GALBRAITH, Chief Surgeon, U. P. R'y, Omaha, Neb.

Medical Society of Virginia.—The twenty-sixth annual session of the Medical Society of Virginia will be held in Wytheville, Va., beginning Sept. 3, 1895. After prayer, Address of Welcome by COL. R. E. WITHERS, M.D., Report of Committee on Applications for Fellowship, etc., the Address to the Public and Profession will be delivered by DR. LEWIS G. PEDIGO, Shawsville, Va.

Report of Committee on Prize Essays: Dr. Hunter McGuire's prize of $100 for essay on "The Present Status of Serum-Therapy;" conjoint prize of Drs. Joseph Price and Herbert M. Nash of $200, for "The History of Surgery and of Surgeons in Virginia."

Wednesday, September 4, Dr. Ro. J. Preston, of Marion, Va., will deliver the Annual Address of the President.

After the elections, etc., the call for papers and discussions will be continued as the order of business. The following Fellows have complied with the terms of their appointment by the President last fall:

Z. V. Sherrill, Bland Court House, Vesical Calculus in

Females; James N. Greer, St. Paul, Laparotomy, with Report of Cases; C. K. Kernan, Lebanon, Strychnia as a Heart Tonic; W. S. Sayers, Wytheville, Convulsions; George Ben. Johnston, Richmond, Treatment of Cholelithiasis; J. W. Long, Richmond, Pelvic Inflammations; T. W. Simmons, Martinsville, Uric Acid as a Gynecologic Factor; Wm. F. Drewry, Petersburg, State Provision for Epileptics; Hugh M. Taylor, Richmond, Obstruction of Bowels; Paulus A. Irving, Richmond, Puerperal Sepsis.

The following have promised papers: Honorary Fellow Dr. Hunter McGuire, Richmond, Seventeen Operative Cases of Chronic or Relapsing Appendicitis, with One Death—Remarks; B. C. Keister, South Boston, Varicocele; J. Allison Hodges, Richmond, The Galvanic Current in Treatment of Pelvic Pain; Honorary Fellow Dr. Joseph Price, Philadelphia, Pa.; R. M. Slaughter, Theological Seminary, Abscess of the Liver in Children; James L. Kent, Bertha, Long Survival of Injury of the Spinal Cord in the Cervical Region; Charles M. Blackford, Lynchburg, Pathology and Treatment of Gonorrhea; Honorable Fellow George Tucker Harrison, New York, The Symptomatology, Etiology and Treatment of Endometritis; M. J. Payne, Locust Grove, A Case of Cerebral Trauma, Indistinct and False History—Remarks on Diagnosis and Treatment; Jos. A. White, Richmond, Eye Troubles in their relation to Diseases of Other Organs.

The following have responded favorably: J. McFadden Gaston, Atlanta, Ga., Pyemia and Septicemia in their Surgical Aspects; D. Mayer, Charleston, W. Va., Rigid Os; Edwin Ricketts, Cincinnati, Ohio, Some Recent Work in Gall-Bladder Surgery.

LANDON B. EDWARDS, M.D.
Recording Secretary, etc. (for the Executive Committee).
Richmond, Va., Aug. 3, 1895.

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PUBLIC HEALTH.

To Prevent Blindness.—Two laws precisely alike were passed by the last General Assembly at its regular session and signed by the Governor of Illinois, namely, House Bill No. 51 and Senate Bill No. 57. They provide that should any midwife or nurse having charge of an infant in this State notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse having charge of such infant to report such fact in writing, within six hours, to the health officer, or some legally qualified practitioner of medicine in the city, town or district in which the parents of the infant reside. Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed $100 or imprisonment not to exceed six months, or both.

Right Denied to Boards of Health.—A health ordinance providing that no cows shall be kept within two hundred feet of any dwelling without a special permit obtained from the board of health, the general term of the Supreme Court of New York holds, in the case of Village of Flushing v. Carraher, decided May 13, 1895, is not authorized by a statute which gives local boards of health power to make and publish all such orders and regulations as they may deem necessary and proper for the preservation of life and health and the execution and enforcement of the public health in the municipality, and to make, without publication thereof, orders and regulations for the suppression of nuisances and concerning all other matters in their judgment detrimental to the public health in special or individual cases. Under the statute, if the matter is such that a general ordinance can be passed upon the subject, the court says that then such ordinance should be enacted. If not susceptible of general regulation, then the board should proceed by special order in the particular case, when the person attacked may defend himself in the courts. The board of health, by the ordinance under review, did not forbid the keeping of cows within two hundred feet of a dwelling house, but so keeping cows without a special permit. In other words, the board took to itself the power of licensing cow stables. No such power was granted by the Legislature.

French Degeneracy from Alcoholism—Absinthe Condemned.—The Paris correspondent of the *Press and Circular*, for the issue of June 26, writes that Dr. Lannelongue, who is a member of the House of Deputies as well as professor at the Academy, has made a vigorous appeal against the lax laws of France concerning the manufacture and sale of alcohol. "Among other statements made by Dr. Lannelongue, he said that 'alcoholism, at the present day, was not only endangering the public health, but also threatening the very existence of the species; it filled the hospitals, the asylums, the prisons, and populated the penal settlements. Previous to 1850, alcoholism was almost unknown, or rather it had not the same character; the effects were temporary because the drink taken was pure and natural. But four years afterward, alcohol of vinous origin failed, and immediately it was replaced by that derived from molasses, beet-root, and potatoes, which poisoned the race. In 1830 the number of suicides from alcoholism were 5 per 100,000 persons; they were 21 in 1881, while 46 per cent. of homicides, 74 per cent. of grievous wounding, 54 per cent. of domestic quarrels, 77 per cent. of outrages against public decency were due to drink. Against the many afflictions which attack man, against the large number of contagious maladies, epidemic or other, the characteristic of the healthy individual is his organic resistance, which enables him to triumph over all the assaults from his most terrible enemies—microbes. The drunkard, on the other hand, has lost all resistance, and falls an easy prey to disease. At 40 he is already an old man; his tissues are degenerated, so that he makes the worst of patients. It is not the richer classes in France who saturate their bodies with alcohol, because they know better, but the lower classes, and especially the workmen, who are ill-fed, clothed, and lodged. In Brittany, however, women of good position give themselves up to alcohol. Out of 107 young married women who died from drink 8 were sterile, and of the 99 others there only remained as posterity 6 sickly children. On the other hand, these same women had 28 children before having taken to alcohol who are very healthy, showing what the others might have been if the mothers had led a sober life. What is still worse,' continued Dr. Lannelongue, 'is the fact that the passion of the parents is transmitted to the children. The drunkard engenders an offspring with the same tendency, be they girls or boys, and curious to say, they begin to drink at the same age that the father began to drink.'" Dr. Lannelongue, who spoke for nearly two hours, interrupted by frequent applause, concluded by appealing to the government to take under its own control the manufacture of alcohol, and to forbid entirely all those liquors made from essences, and more especially from absinthe.

Health Reports.—The following health reports of infectious diseases have been received by the Supervising Surgeon-General of the Marine-Hospital Service:

SMALLPOX—UNITED STATES.

New York: Brooklyn, August 10 to 17, 1 case.
Texas: Eagle Pass (smallpox camp), to August 18, 143 cases, 35 deaths.
Tennessee: Memphis, July 1 to August 7, 10 cases; Shelby County, July 1 to 31, 17 cases.
Philadelphia: July 17 to August 16, 18 cases, 1 death.

SMALLPOX—FOREIGN.

Antwerp: July 20 to 27, 2 cases.
Buda-Pesth: July 22 to 29, 2 cases.
Calcutta: June 30 to July 6, 6 deaths.
Guayaquil: July 19 to 26, 3 deaths.
Madrid: July 22 to 29, 1 death.
Nogales: August 3 to 10, 5 cases, 1 death.
Odessa: July 20 to 27, 7 cases.
Rio de Janeiro: July 13 to 20, 40 deaths.
St. Petersburg: July 20 to 27, 1 case.

CHOLERA.

India: Bombay, July 2 to 9, 1 death; Calcutta, June 30 to July 6, 22 deaths.
Japan: Hiogo, July 13 to 20, 85 cases, 74 deaths; Nagasaki, July 5 to 12, 29 cases, 20 deaths.
Russia: Volhynia, June 9 to 22, 57 cases, 20 deaths.
Turkey: Mersine, June 18 to July 16, 410 cases, 235 deaths;

Tarsus, June 18 to July 16, 293 cases, 143 deaths; Adana, June 18 to July 16, 660 cases, 305 deaths; Sis, July 1 to 10, 4 cases, 2 deaths; Karszulcadric, July 9, 10 cases, 2 deaths; Hatchin, July 1 to 8, 14 cases, 7 deaths; Karatasch, June 30, 23 cases, 27 deaths; Messis, June 29 to July 11, 17 cases, 8 deaths; Alan Sinar, June 30, 12 cases; Pajas, July 1 to 9, 26 cases, 24 deaths; Bulanik, July 1 to 13, 35 cases, 22 deaths; Jumurtalik, July 10 to 13, 7 cases, 5 deaths; Marasch, June 30 to July 14, 25 cases, 15 deaths; Padzardjik, July 8, 7 cases, 7 deaths; Hadji-Bil (Lazaretto) July 7, 3 cases, 3 deaths; Gok-Sun, July 8, 8 deaths; Karahissen, July 7 to 11, 11 cases, 7 deaths; Husu Mansur, July 8 to 10, 10 cases, 4 deaths.

YELLOW FEVER.

Cuba: Cienfuegos, August 4 to 11, 1 case; Sagua-la-Grande, August 3 to 10, 4 cases; Havana, August 1 to 8, 70 cases, 25 deaths.

Brazil: Rio de Janeiro, July 13 to 20, 14 deaths.

Mexico: Vera Cruz, August 1 to 8, 7 deaths.

NECROLOGY.

J. R. BRANDT, M.D., of Chicago, August 18, aged 57. He was born in New York and after graduation at Oberlin College taught school in Kentucky, becoming State Superintendent of Public Instruction in that State. In 1886 he came to Chicago and began the practice of medicine, and in 1890 was appointed a member of the county hospital staff. He was elected county commissioner in 1890. Only three weeks since, Dr. Brandt, in company with Dr. E. F. Wells and the editor of this JOURNAL, called on President Healy and urged the appointment of specialists to the control of the Cook County Hospital for the Insane at Dunning. That President Healy did not see fit to adopt the suggestion, was no fault of Dr. Brandt's. He then seemed in his usual health and spirits, and no one would have supposed him to be so near his end. His last public work was directly in the line of his profession and in the service of humanity.

JAMES GORDON, M.D., of Carlyle, Ill., August 11, aged 77 years. He was born in Huntsville, Ala., and began the practice of medicine in 1838. Thomas McKennan, M.D., of Washington, Pa., August 8, aged 70.——Rees Davies, M.D., of Wilkes Barre, Pa., August 10, aged 58.——D. L. Manchester, M.D., of Waupaca, Wis., August 11, aged 62.——William S. Battles, M.D., of Wooster, Ohio, August 9, aged 69.——Samuel C. Metcalf, M.D., of Fort Wayne, Ind., August 10, aged 51.

MISCELLANY.

Aid for Industrial Home for the Blind of Chicago.—The Illinois Legislature has appropriated for this institution for working capital to be permanently employed, $10,000; for completion of third and fourth stories of dormitory, $7,000; and for expenses, per annum, $10,000.

Surgeon-General James B. Tryon, of the Navy, has been elected a member of the Red Cross Society of Venezuela. He has also been awarded the bronze medal of that Society in recognition of the services he rendered the wounded at La Guayra during the revolution of 1892, when Dr. Tryon was attached to the flagship *Chicago*.

Liability in Michigan of Married Woman to Pay Physician.—In Michigan a married woman who lives with her husband is liable for medical services and medicines furnished to her and to her daughter by a former marriage, the Supreme Court of that State holds, in the case of Goodman v. Shipley, decided May 21, 1895, when it was done at her request, the charge made against her, and she promised to pay therefor.

In the Interests of Science.—Among the appropriations made by the State for the University of Illinois in which the medical profession is more or less interested, are the following: for the increase of scientific cabinets and collections, $1,000, per annum; for improvement in the chemic laboratory, $5,000; for a laboratory for vegetable physiology, $2,000; for a small temporary building and equipment for work of the biologic experiment station on the Illinois River, $2,500, and for half of the operating expenses of said station, $1,500 per annum.

Illinois State Laboratory of Natural History.—Among its other appropriations, the Illinois Legislature has set apart $1,000 for the improvement of the library of the State Laboratory of Natural History; $1,500 per annum for the experimental investigation of the contagious diseases of insects, and $1,500 per annum for one-half of the expense of the Illinois Biologic Station.

Provision for Insane of Illinois Soldiers' and Sailors' Home.—Members of the Illinois Soldiers' and Sailors' Home who are now insane, or who hereafter become insane, the Illinois Legislature has enacted, may be committed to any of the State hospitals for insane persons, except the hospital for the criminal insane, and, being wards of the State, they shall not be credited to any county, but to the State at large.

Provision for Rebuilding the Southern Hospital for the Insane at Anna.—For rebuilding in a thoroughly fireproof manner the south dormitories and wings, and the administration building of the Southern Hospital for the Insane at Anna, Ill., recently destroyed by fire, including the costs of the improvements, removing *débris* and repairing the damage done by fire and cost of repairing the same, the Illinois Legislature appropriated the sum of $171,970, or so much thereof as may be necessary, payable to the trustees on their order, or their order approved by the Governor, in sums not exceeding $85,000, as the work progresses.

A Physician Entrapped and Robbed.—Dr. George Drury, a Brooklyn physician, was the victim of the most audacious as well as well-planned robbery that has been experienced by any practitioner in many a day. He was decoyed to a vacant house, gagged and securely bound, and then stripped of his valuables and money while a knife was held at his throat. The robbers carried out their plot without a hitch, and had taken flight more than half an hour before Dr. Drury recovered consciousness and released himself from his bonds. The telephone was the instrumentality of the summons in this case. Dr. Drury remembered that he recently had a patient whose name resembled that which was used over the telephone, and made reply that he would give the case his immediate attention. Whether the robbers knew of Dr. Drury's attendance upon a patient bearing the same name as that which they employed, or whether they chanced upon the resemblance, it shows a possible danger that lurks in telephone calls. Look out for the unknown telephone caller, whether the name used has a genuine ring or not! It is very easy for a designing rogue to work in with a coachman or other physician's employe and worm out the name of some patient that will fit in with a scheme of robbery. It may safely be predicted that we have not heard the last of this branch of thievish enterprise. Other cities beside Brooklyn will be its field of experiment. The telephone is a great labor saver, but it may be the means of loss of life to some medical practitioner as well as being the tool of assault and robbery.

Illinois Vaccine Laboratory.—The sum of $3,000 was appropriated by the Illinois Legislature at its last general session for the purpose of establishing, equipping and maintaining a laboratory in connection with the State University at Champaign, for the propagation of pure vaccine virus. The trustees of the University, it is provided, shall have the management of said institution, though the State Board of Health is to exercise supervision of the methods of propagation and shall certify to the purity of all products. All physicians and health officers within the State are to be furnished with the product of the laboratory at the cost of

propagation. A report of the management, together with a statement of the receipts and disbursements is to be made and included in the annual report.

Typography a Roman Art.—It is stated on the authority of the *Foia Dieccesana*, the official paper of the Greek-Roman bishopric of Carausebes, in South Hungary, that unmistakable evidence of the art of typography has been discovered among the ruins of Bersovia, in Dacia, an old province established as a colony by the victorious Romans on territory then acquired by them. The discovery is attributed to the architect and archæologist, Adrian Diaconu, who, it is said, found evidence of the use even of movable type by the Romans at this colony, and particularly by those of the fourth legion, Flavia Felix. Two members of the Bucharest Scientific Academy confirm Diaconu's opinion, having examined the evidence and declared the discovery to be of the utmost importance. If these facts be really true, the honor of inventing typography will no longer reside with the Germans nor with the Italians, who attributed the discovery to Panfilio Castaldi.—*Scientific American.*

The Upas Tree.—During his recent stay in Java, Professor Wiesner ascertained some interesting particulars with reference to the celebrated Upas tree, *Antiaris toxicaria*. Contrary to the general impression that this tree is not uncommon in Java and the Sunda Islands, an impression manifested by the statements in the leading text-books, Professor Wiesner learned that the original specimen described by Leschenhault has been felled, and in the whole of Java there were but three individual trees belonging to the genus and closely allied to *A. toxicaria*. Of these three one was found by Dr. Greshoff to be innocuous, and was therefore *A. innoxia Blume*, a species supposed by many botanists to be only a variety of *A. toxicaria*. The second tree proved to be poisonous, one drop of the latex being sufficient to kill a dog; the third has not been examined. The tree has, however, been cultivated in the botanical garden, and there are in the plantation at Tjikomoh about seventy specimens. Neither in the botanical garden nor in the plantation could any ill effects be observed, even after a person having been for some time in the neighborhood of the trees; so the accounts of the poisonous nature of the exhalations from it are much exaggerated. Dr. Burck has shown that the plant gives off no injurious vapors, and that the latex is poisonous only when it passes through a wound into the blood.—*Scientific American.*

Cost of Caring for Some of the Illinois Unfortunates.—There was appropriated by the Illinois Legislature for the purpose of defraying the ordinary expenses of the following institutions, for the year beginning July 1, 1895, as follows: the Northern Hospital for the Insane, $150,000; the Eastern Hospital for the Insane, $308,000; the Central Hospital for the Insane, $165,000; the Southern Hospital for the Insane, $125,000; the Asylum for Insane Criminals, $26,000; the Institution for the Deaf and Dumb, $100,000; the Institution for the Blind, $52,000; the Asylum for Feeble Minded Children, $80,000; the Charitable Eye and Ear Infirmary, $26,000; or a total of $1,032,000. Beside this amount, there was appropriated, for these nine institutions, some $241,300, to be expended in certain specified directions, but principally for repairs and improvements.

College of Physicians of Philadelphia.—The William F. Jenks memorial prize of $500, under the deed of trust of Mrs William F. Jenks, has been awarded to A. Brothers, M.D. of 162 Madison Street, New York, for the best essay on "Infant Mortality During Labor, and Its Prevention." The Prize Committee also reports as highly meritorious the essay on the same subject bearing the motto "Vade Mecum." The writers of the unsuccessful essays can have them returned to any address they may name, by sending it, and the motto which distinguished the essay, to the Chairman of the Prize Committee, Horace Y. Evans, M.D., College of Physicians, Philadelphia.

JAMES V. INGHAM,
CHARLES S. WURTS,
I. MINIS HAYS,
Trustees of the Wm. F. Jenks Memorial Fund.

British Medical Association.—Our contemporary, the *British Medical Journal*, grows enthusiastic in speaking of the recent meeting of the Association of which it is the organ. It says that Sir Russell Reynolds has presided at the greatest assembly that our profession has ever known, and in saying this it does "not forget the great International Congresses either in our own country or abroad; in mere numbers, for aught we know, some of these meetings may have surpassed the Association meeting of this week. English medicine, has, however, this week shown itself in numbers vast enough to fire the most sluggish imagination; while on the other hand, the age, standing, and prosperity of our Association give a unity, a dignity, and an impressiveness to its chief assemblies which are wanting to the more or less motley and fortuitous gatherings which have not a national character." The parallelism between the 1895 meetings of the two great national Associations is matter for congratulation.

Women Doctors in Russia.—Women desirous of studying medicine in Russia were formerly obliged to gain their special knowledge in foundling homes, lying-in hospitals and convents. Later on, they were granted access to the university courses and the schools for assistant surgeons. It was not until 1872 that more complete courses of four years were instituted in connection with the Academy of Medicine for the instruction of midwives. In 1876 a fifth year was added and the studies somewhat assimilated to those for men. In this field the women soon acquired a brilliant and well merited reputation. During the time of the war of 1877–78 the services they rendered were generally recognized and the Emperor decreed them the title of "women doctors." In 1877 the first class of women doctors was turned out; after this, the medical courses having passed from the control of the Academy of Medicine to that of the Saint Nicholas Hospital, many hundreds of women were enabled to pursue their studies and are now successfully practicing in country communities and in the urban hospitals. Notwithstanding their incontestable utility, these courses were suppressed by the military administration in 1886, and then the women begged support from the municipal province of St. Petersburg. The municipality answered that it saw no hindrance to assuming charge of these courses for women on condition that they relinquished the urban hospitals, that the outlay for the courses did not exceed 15,000 roubles annually, and that the Minister of War would grant a certain sum for their maintenance. These conditions were all complied with and a sum estimated at 700,000 roubles has accumulated, yet the courses for women are not yet re-opened. However, it is expected this will be done shortly.[1]

Hospital Notes.

THE German Society in charge of the Protestant Deaconess Hospital, at Indianapolis, Ind., announces that the new hospital will soon be ready for occupancy.——Plans have been prepared for the construction of a new contagious hospital at Paterson, N. J.——An effort is being made in Buffalo, N. Y., to establish a German hospital in that city.

Philadelphia Notes.

SMALLPOX.—There are about twenty cases of smallpox in this city, all in the Municipal Hospital. The local Board of Health has directed that hereafter all patients suffering with variola in this city shall be removed to the hospital, where a special isolating pavilion has just been erected for the exclusive treatment of such cases.

FIRE IN A HOSPITAL.—Fire occurred August 14 in the outbuildings used as a storage house and laundry at the Phila-

[1] Jour. de Med. de Paris, 1895, No. 27.

delphia Hospital (Blockley) in the Female Department. By the prompt action of the attendants, the patients were removed from the adjacent wards to a remote wing of the building. Good service was rendered by the well-trained fire crew composed of resident physicians and attendants and owing to the care of the nurses no panic occurred and no patient was injured. The damage to the buildings and storehouse was about $30,000; the hospital proper was not injured.

THE STATE HOSPITAL FOR THE INSANE for the Southeastern District at Norristown has purchased adjoining property of about eighty-five acres for a sewage farm, to protect the Schuylkill River from pollution by that source.

Washington Notes.

HEALTH OF THE DISTRICT.—The report of the Health Officer for the week ended August 10, is as follows: number of deaths (still-births not included): white, 66; colored, 74; total 140. The effects of the extremely warm weather are manifest in the increased death rate during last week. From 103 as reported by the Health Department week before last, the number of deaths increased to 140. This gives a death rate of 26.9 as against the annual normal of 23.05. Diseases of the brain (11), heart (10), and diarrheal complaints (32), compose mainly the increase. Nearly one-half of all the mortality was of children under 10 years of age, 58 of whom were 1 year old. From the dangerous contagious maladies there were two fatal cases of diphtheria, one of scarlet fever and one from whooping cough. Four deaths from typhoid fever occurred and two from heat stroke. In other respects the health of the city is favorable for this season of the year.

FINED FOR VIOLATING GARBAGE RULES.—A number of persons have been fined in the police courts for failing to provide the regulation "slop tub." The penalty is a fine of not less than $5 nor more than $50 or imprisonment in the work house for from five to thirty days.

FELL FROM THE WINDOW OF THE CHILDREN'S HOSPITAL.—The coroner was called upon to investigate the circumstances attending the death of the child who fell from the second story window of the Children's Hospital on the 12th instant.

A NEW WAY OF BEATING THE DOCTORS AND DRUGGISTS.—An enterprising gentleman has invented a new trick for securing money without working for it, and has victimized a number of physicians and druggists here. He calls on the doctor, has him prescribe, and in payment presents a check, the amount of which is larger than the fee. The doctor, anxious for the fee, accepts the check and pays the patient the balance. The gentlemen takes the prescription to the druggist, who fills it, and accepts a large check in payment, advancing the balance. The banks on presentation declare the checks worthless.

WASHINGTON NEEDS A MORGUE.—Possibly no city in the United States is less provided with a morgue than Washington. Particular attention was called to the fact last week, when the decomposing body of a young man, in a rude ice box, permeated the neighborhood with foul odors. The present morgue is a small room about 10 x 15 feet, poorly lighted and ventilated, adjoining the stables of the sixth precinct police station. It contains but one table and the above mentioned old-fashioned ice box. One spigot furnishes cold water. The room next, is far superior, but is used for the storage of the patrol wagon. It is well remembered that at the time of the Ford's Theater disaster, the dead were placed on the concrete floor, presenting a most disgraceful and shocking scene to those who called to identify the bodies of their friends or relatives.

ENFORCEMENT OF GARBAGE REGULATIONS.—The time allowed by the Commissioners to the housekeepers to comply with the garbage regulations has elapsed, and within a few days proceedings will be instigated in the police court against those who have failed to comply with them. These regulations have been neatly printed on a card and distributed throughout the city. A perusal of them at this time will be of benefit. Among other things, the householder must provide a suitable receptacle for garbage, provided with a tight cover, and keep the same in repair. It must be placed between 7 o'clock in the morning until 6 o'clock in the evening in a place convenient and easily accessible to the collector. Another important provision is that each householder having a street and alley entrance shall place at the alley entrance the street and number of the house. Failure to comply with these regulations makes the offender liable to a fine of not more than $50, nor less than $5, and in default of payment, imprisonment in the work house for not more than thirty days.

CLOSING THE WELLS.—Gradually the public wells of the city are being abandoned and filled. There has been no sweeping order, but each day or so, an order goes forth closing a well. There are comparatively few left, and it is believed before another summer comes, not one of the old original wells will be open. The Commissioners, however, believe in pure water, and a determined effort will be made at the next session of Congress to get an appropriation sufficient to sink a number of deep wells all over the city. The experiments recently tried upon these deep wells were so satisfactory that the Commissioners became convinced that deep wells were the only proper ones for Washington. There are two of these wells in the city at present, and more would have been sunk if there had been sufficient appropriation.

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from August 10, 1895, to August 16, 1895.

The leave of absence granted Capt. JUNIUS L. POWELL, Assistant Surgeon U. S. Army, is extended one month.

The extension of leave of absence on account of sickness granted Major CLARENCE EWEN, Surgeon, is further extended two months on account of sickness.

The leave of absence for seven days granted to Captain R. J. GIBSON, Assistant Surgeon, is extended twenty-three days.

Capt. LOUIS S. TESSON, Assistant Surgeon, is relieved from duty as Attending Surgeon, at Headquarters Department of the Missouri, and Examiner of Recruits at Chicago, Ill., and ordered to Fort Ethan Allen, Vermont, for duty, relieving Capt. AARON H. APPEL, Assistant Surgeon. Capt. APPEL, on being thus relieved, will report for duty as Attending Surgeon and Examiner of Recruits, Chicago, Ill.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending August 17, 1895.

August 14, Assistant Surgeon M. S. GUEST to the "Minnesota."

Marine-Hospital Changes. Official list of changes of stations and duties of medical officers of the U. S. Marine-Hospital Service, for the fifteen days ended August 15, 1895.

P. A. Surgeon EUGENE WASDIN granted leave of absence for ten days, Aug. 1, 1895.

P. A. Surgeon L. L. WILLIAMS, to proceed to South Atlantic Quarantine Station on temporary duty on being relieved by Assistant Surgeon E. PROCHAZKA, Aug. 6, 1895.

P. A. Surgeon W. P. MCINTOSH, granted leave of absence for thirty days from Sept. 1, 1895. Aug. 5, 1895.

P. A. Surgeon G. M. MAGRUDER to assume command of smallpox camp, Eagle Pass, Texas. Aug. 10, 1895.

P. A. Surgeon H. D. GEDDINGS, granted leave of absence for thirty days on being relieved by P. A. Surgeon L. L. WILLIAMS.

P. A. Surgeon B. W. BROWN, to proceed to New London, Conn., as Inspector. Aug. 15, 1895.

P. A. Surgeon M. J. ROSENAU, to proceed to Eagle Pass, Texas, for temporary duty. Aug. 6, 1895.

Assistant Surgeon JAS. A. NYDEGGER, to assume charge of Detention Camp, Waynesville, Ga., in addition to other duties. Aug. 14, 1895.

Assistant Surgeon E. PROCHAZKA, to proceed to Charleston, S. C., for temporary duty. Aug. 6, 1895.

LETTERS RECEIVED.

Ashby, T. A., Baltimore, Md.; Alma Sanitarium Co., Alma, Mich.
Bassett, J. N. Jr., Canton, N. Y.
Beesman, Nelson & Co., St. Louis, Mo.; Coil, H. E., Middle Branch, Ohio; Cone, Andrew, New York, N. Y.; Collings, S. P., (2) Hot Springs, Ark.
Davis, Chas. G., Chicago, Ill.
Eaton, F. B., Portland, Ore.
Field, A. G., Des Moines, Iowa.
Gihon, A. L., Washington, D. C.; Gaston, J. McFadden, Atlanta, Ga.
Hildreth, M. L., Lyons, Neb.; Hotzapple, G. E., Seven Valley, Pa.; Hummel, A. L., (2) Philadelphia, Pa.; Hansen, Harold C., New York, N. Y.
Ingraham, C. W., Binghamton, N. Y.
Kelly, W. R., Watonga, Okla Ter.; Kierulff, B. F., Marshalltown, Iowa; Kansas City Adv. Co., Kansas City, Mo.
Lentz, Chas. & Sons, Philadelphia, Pa.
Milliken, Jno. F. & Co., St. Louis, Mo.; Michael, M., Chicago, Ill.; Maltine M'f'g Co., New York, N. Y.
Newman, H. P., Chicago, Ill.
Pepper, Wm., Philadelphia, Pa.; Parker, W. T., Groveland, Mass.; Purnell, J. B., Snow Hill, Md.
Rossington, Smith & Dallas, Topeka, Kan.
Stearns, F. & Co., Detroit, Mich.; Spalding, W. C., New York, N. Y.; Sheiffelin & Co., New York, N. Y.
Taylor, R. H., Griffin, Ga.
Vincent, D., LaPorte, Ind.; Valentine, F. C., New York, N. Y.
Woolsey, E. H., Oakland, Cal.; Walker, H. O., Detroit, Mich.; Woodbridge, John E., Youngstown, Ohio.
Zeigler, S. L., Philadelphia, Pa.